Implementation of an Agitation Scale in Three Emergency Departments in an Urban Area of Northern California

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Implementation of an Agitation Scale in Three Emergency Departments in an Urban Area of Northern California

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Section I: Abstract

**Background.** Behavioral health patients in the emergency department are customarily treated without an objective assessment of agitation at presentation and throughout their hospital stay.

**Local Problem.** Behavioral health patients presenting with agitation in three emergency departments in Northern California are customarily treated with activation of a Code Grey emergency alert, use of physical restraints, or emergent sedation medication administration to manage the situation, prevent escalation, and protect the staff.

**Context.** Agitation in patients that is not recognized can lead to emergent sedation medication administration, physical restraints placed, and Code Greys activated to support the clinical staff.

**Interventions.** An evidenced-based agitation scale was implemented in three emergency departments to introduce more therapeutic patient-centered care to the ED nurse workflow.

**Outcome Measures.** Frequency of Code Grey activations, physical restraint placement, and emergent sedation medication administration were measured pre, mid, and post-intervention. Prior year data for the corresponding months of the intervention was compared.

**Results.** Implementation of the agitation scale reduced the frequency of Code Grey activations and administration of emergent sedation medication from mid-point to post-implementation in all three emergency departments. Four-point restraint use decreased from the prior year but was relatively stable over the duration of agitation scale implementation.

**Conclusions.** The incorporation of an agitation scale into nurse workflow provided an opportunity for earlier intervention and a path to more therapeutic patient-centered care.

**Keywords:** Agitation, agitation scale, emergency department, restraints, Code Greys, sedation medication.
Section II: Introduction

Problem Description

Acute agitation is a common issue in emergency departments (EDs). Acutely agitated patients may present to an ED with illicit drugs in their system, medical concerns, a psychiatric emergency, or several presentations in one episode. These patients are volatile; agitation can escalate quickly and require emergency intervention. The intervention itself can traumatize the patient and the care team—a concern for all and unacceptable on any level. Healthcare workers are professionally and ethically bound to provide therapeutic healing and safe patient care.

Setting

The setting for the quality-improvement project is three distinct EDs in an urban area of Northern California. The three EDs serve populations with distinct socio-economic and racial/ethnic characteristics. Together, the EDs account for approximately 76,000 patient visits per year: 15,000 for the smallest ED, 25,000 for the mid-size ED, and 36,000 for the largest ED.

Behavioral health patients in the EDs account for approximately 35% of the daily volume. Homelessness, a history of psychiatric diagnosis, and poly-substance-use disorders are prevalent as comorbidities. Patients might initially present to an ED without behavioral health issues. However, these issues can quickly emerge and escalate to the point of requiring restraints, emergent sedation medication, and Code Greys to initiate an emergency response from hospital security.

Many EDs, including those that are the subject of this project, do not have a defined approach to quantify a patient’s level of agitation upon their arrival or during treatment. Without training on agitation management and an objective assessment tool, ED healthcare workers are apt to miss cues from changes in a patient’s behavior, fail to intervene appropriately, and induce
trauma—both short-lived and long-term. An agitation scale that provides objective indicators of agitation and its escalation can help the healthcare staff read the signs of agitation and its escalation and guide emergent intervention for appropriate treatment of ED patients. The absence of a problem solving-approach to agitation management and the knowledge deficit of ED healthcare workers regarding a patient’s agitation status prompted an evidence-based study of agitation scale implementation to decrease the need for emergent intervention to decrease patients’ fear of the emergency department and resistance to treatment.

**Specific Aim**

The specific aim of this project is to implement the use of an evidence-based agitation scale to recognize early agitation and decrease by 10% Code Grey activation, use of four-point restraints, and administration of emergent sedation medication over three months.

**Available Knowledge**

**PICOT Question**

The PICOT question, developed to reflect the project's specific aim, guided the literature search strategy and selection of terms. The PICOT question is: Will the implementation of an agitation scale by nurses in three urban emergency departments decrease the use of Code Greys, use of four-point restraints, and administration of emergent sedation medication on behavioral health patients within 90 days?

**Search Methodology**

A systematic review and thorough evaluation of the literature was completed using the Prisma 2009 Flow Diagram four-step methodology (Moher et al., 2009). The first step is the identification of the studies; the second step is screening; the third is eligibility determination...
using an evidence evaluation tool. The fourth and final step is the selection of the highest quality studies, both qualitative and quantitative studies, to be included in the review of evidence.

The database search engines used for the literature review were CINAHL, PubMed, and APA PsycInfo. The key search terms were emergency department, agitation, violence, and behavioral health. Search term combinations returned 33 studies to examine. The parameters were then changed to include only peer-reviewed and English-language articles published between 2015 and 2020. The modified search returned 29 studies that were reviewed for relevance to the project aim. Nine studies were chosen that highlighted agitation and the need for a change of current practice in emergency departments. The studies were appraised with the Johns Hopkins nursing evidence-based practice research and non-research evidence appraisal tools (Dang & Dearholt, 2018). See Appendix A for the Evaluation Table.

**Integrated Review of the Literature**

**Restraints**

Jegede et al. (2017) investigated associations between patient demographic characteristics, primary diagnoses, and the use of restraints in patients presenting to a psychiatric emergency department of an urban community hospital. The premise of the systematic retrospective review was that early diagnosis and identification of comorbidities, combined with prompt, proactive management of patients, could reduce the need to use restraints. The study highlighted the importance of pre-emptively recognizing patient behavior that triggers the use of restraints and subsequently taking appropriate behavioral health interventions that mitigate the need to use restraints.

In a retrospective cohort study, Kleissl-Muir et al. (2019) reviewed 548 incidents of violence in a single hospital in Victoria, Australia, over 5.5 years to examine associations with
substance abuse. Intoxication was the leading cause of violent behavior, followed by behavioral health. A form of restraint (chemical, physical, or both) was used in 68.6% of incidents and was attributed to hospital culture. The study underscores the need for more resources to mitigate violence in EDs and appropriately diagnose, manage, and treat patients.

**Agitation**

Zeller and Citrome (2016) completed a systematic review of practice guidelines for caring for patients with agitation in an urban emergency department. The review highlighted evidence that the customary practice of “restrain and sedate” should not be used as the first line of intervention for agitation. Instead, more patient-centered, non-invasive interventions by clinicians to manage a patient’s agitation were recommended. The authors noted from their review that changes in non-pharmacological approaches and pharmacological modes of delivery had increased the options for both patients and physicians to reduce the need for the use of invasive medicines and can encourage future cooperation between patients and healthcare providers.

Wong et al. (2018) used a mixed-methods approach to gain a better understanding of treating agitated patients within a well-defined framework. The mixed-methods approach included three different agitation scales within an emergency department. The research assistants completed and submitted the forms for the researchers. The total number of patients included was 95 that compared the agitation scales with sedatives and restraints in the studies patients. The study concluded that further evaluation utilizing agitation scales within the emergency department is warranted to verify the results that a specific scale correlated with sedation and restraint usage.
Gottlieb et al. (2016) provided an evidence-based summary of current ED clinical care guidelines through a literature review on caring for agitated patients in emergency departments. Acute agitation has a broad etiology and may be difficult to diagnose; missed diagnosis of a dangerous etiology of agitation may result in severe morbidity and mortality. Assessment and management of the agitated patient should occur concurrently, with acute agitation diagnosed quickly and appropriate care started immediately. The authors concluded that the safe and effective management of agitated patients in the ED is best achieved through a focused and thorough examination coupled with expedient intervention and management strategies that facilitate patient-centered care.

Yap et al. (2019) conducted a prospective observational study of adverse events that may occur during emergent sedation of acutely agitated adult patients in an ED. Results showed that while adverse events were not uncommon, they were not detrimental to the patient. Departments need to be aware that adverse outcomes in elderly and intoxicated patients can be easily rectified. The authors emphasized the necessity of monitoring patients and for healthcare staff to be on the alert to detect any adverse sedation outcome.

Wong et al. (2019) carried out a prospective observational study using three different agitation scales in an urban tertiary ED. Each of the three scales was found to be useful. The choice of which scale to use to assess changes in a patient’s agitation level would best be made by an individual ED. Further evaluation of the scales is needed to determine which scale adequately correlates agitation scores with sedation or restraint use.

**Care of the Patient**

In a subsequent qualitative study, Wong et al. (2020) conducted interviews with patients who presented with behavioral health complaints to an ED. The study highlighted those patients
could experience immediate physical and long-term psychological trauma from the treatment received. Patients wanted compassion from staff and therapeutic care during their stay in the ED, yet interviews revealed feelings of denigration and disregard for their conditions. The authors drew from their results the importance of healthcare providers fostering therapeutic relationships with behavioral health patients and providing patient-centered care.

New et al. (2017) reviewed the practice guidelines for agitated patients in an ED to direct quality improvement of care. Agitated patients present a challenge of balancing diagnosis, treatment, and patient and staff safety. Appropriate care requires the clinician to evaluate the entire patient to determine the root cause of the agitation and determine the needed interventions. Recommendations were to engage the patient in their own care for optimal outcomes. Verbal de-escalation techniques were viewed as the “gold standard” of care, as early use by practitioners can decrease the need for invasive interventions.

**Summary/Synthesis of the Evidence**

The literature review provided evidence of the complexity of agitation etiology and the considerable challenges in caring for agitated patients in the ED, including risks posed to patient and staff safety. Providing appropriate care requires insight into the root cause of the agitation to determine the needed interventions and close monitoring during treatment. The studies underscored how implementing an agitation scale in EDs could help foster therapeutic provider/patient relationships and reduce trauma for patients and staff. Evidence from the literature supports the need for agitation scale implementation in emergency departments. It suggests the scale could contribute to decreased physical and psychological trauma related to the activation of Code Greys, use of four-point restraints, and emergent sedation medication administration. The evidence supports the use of an agitation scale as a nexus for changing the
conversation among healthcare teams about behavioral health patients and improving the flow of information within teams to lessen the psychological and physical trauma agitated patients experience in the emergency department.

**Rationale**

Kurt Lewin’s Change Theory (Mitchell, 2013), a framework for change in the work environment, first theorized in 1951, guided the project with an efficient and practical approach to maneuvering the EDs through change. The three components of Lewin’s change theory are unfreezing, moving, and refreezing.

**Unfreezing:** The first stage of unfreezing the current environment is to assess the need for change, change agents, and the process for effecting change. Unfreezing is the stage at which the team realizes the need for a modification within the current workflow (Hussain et al., 2018).

**Moving:** The second stage is moving through the change process while monitoring the change, moving through the process, solving problems that come up, engaging stakeholders, and amending the process as needed (Mitchell, 2013). The healthcare teams need to be fully engaged in the change process for this stage to be effective.

**Refreezing:** In the refreezing phase, the change has been successfully integrated into the system, and strategies have been developed to prevent a return to previous practices (Mitchell, 2013). The teams and new workflows are now reliable, and change agents are removed (Sales et al., 2006). With the change accomplished, the team can refocus their attention on other aspects of care.

In planning for the intervention, the DNP project lead explicitly acknowledged that the emergency departments operate within the context of an organization, which sets goals, performance standards, guidelines, expectations and makes available resources of various types,
thus imposing certain constraints on the project design and implementation. This approach is consistent with the context of Lewin’s Change Theory.

Section III: Methods

Context

The key stakeholders are the Chief Nurse Executive, Senior Nurse Executive, Nurse Managers, Medical Director for Emergency Services, Psychiatry Chair of Medicine, Risk Management officers, and Director of Security Services. These individuals are part of the system-level behavioral health workgroups in hospitals in which the EDs operate. All key stakeholders were aware of the need for change. Each has been involved in risk cases brought before the Behavioral Health Groups due to patient assaults on staff, initiation of emergent restraints, and emergent administration of sedation medication on acutely agitated patients. All were keenly aware that the acutely agitated behavioral health patient and their care is integral to patients' and staff's health and safety. The key stakeholders were supportive of the project as it aligned with an organizational intent to improve the care of behavioral health patients in the EDs.

The setting for this project comprised three urban hospital emergency departments of a Northern California healthcare consortium. The three EDs are demographically and socioeconomically distinct, with patients reflecting the demographics of each. In all three EDs, staffing ratios are mandated by legislation at four patients to one Registered Nurse. All physicians are board-certified in emergency medicine.

ED 1 is in a low socio-economic area where surges of gentrification over the past 20 years have disrupted the stability of the district’s multi-generational households. Many unhoused individuals utilize the ED as their primary care provider and present with daily health concerns. ED 1 is in a small hospital and has approximately 20 treatment areas. ED 2 has
approximately 12 treatment spaces that provide care to patients in all socio-economic levels within California. The patients utilize the emergency department as their primary care physician and are well known to the ED patient care team. ED 3 has approximately 40 treatment spaces that provide care to a wide range of patients. The hospital is located in an area that hosts a diverse demographic, from the unhoused to the affluent. Many patients consider ED 3 their primary care provider and thus are well known to the care teams.

**Interventions**

The intervention implemented an evidence-based agitation scale to guide the care of behavioral health patients in the three EDs. The agitation scale used in this project was created by Dr. Bogner, Professor and Vice-Chair of Research and Academic Affairs at Ohio State University, who authorized its use. See Appendix B for the use Authorization Letter. The agitation scale has 14 elements that need to be verified by the nurse and marked to determine the patient’s current agitation. The scale was used during the patient’s entire length of stay in the ED and was updated by the nursing staff every two hours or indicated by the patient’s condition. See Appendix C for the Bogner Agitated Behavior Scale.

The Nurse Managers, Nurse Educator, and Director of Nursing worked in tandem to educate the nursing staff on implementing the agitation scale prior to implementation. The scale helped the clinical nursing staff better understand the patients’ agitation upon entering the ED and if the patient was escalating during their treatment time. The agitation scale enabled the nurses to better understand when to use physical restraints, emergent sedation medication, activate Code Greys, and coordinate with the team to provide humane, evidence-based care.
**Gap Analysis**

The Gap Analysis highlighted differences between the current and desired states that needed to be reconciled to achieve the project aim. No tool to assess patient agitation had been used in any EDs, demonstrating a gap from evidence-based practices described in the literature on the use of an agitation scale to foster therapeutic provider/patient relationships and reduce trauma for patients and staff. The gap analysis also highlighted the three ED care teams’ lack of familiarity with agitation scales to deliver more efficacious and humane care, indicating the need for staff education. See Appendix D for the Gap Analysis.

**Gantt Chart**

The Gantt Chart provided a project timeline for the ED care teams and other stakeholders to understand the linear progression of the project from planning to education and on through implementation, post-implementation data analysis, and project review with an emphasis on sustainability. The project was carried out in alignment with Lewin’s Change Theory. In the first stage (unfreezing), baseline data were obtained, and the ED nurses were educated on the intervention and its importance in agitation management. Existing shortcomings in healthcare team communications were presented to provide more positive patient outcomes by using the agitation scale. In the second stage (moving), the agitation scale was implemented. This phase was the working stage of the project and included continual oversight for any necessary course corrections. The final work stage was data analysis and the refreezing stage, where the change was cemented for continuation as standard work. See Appendix E for the GANTT Chart.
Work Breakdown Structure

The Work Breakdown Structure (WBS) highlighted the five areas integral to the project’s success: (a) project development; (b) planning; (c) implementation; (d) financials; and (e) evaluation. These five stages guided the entire process to ensure that the work was structured appropriately to be carried out in the EDs. The most critical aspect of the WBS was the implementation structure. This structure was the fruit of the development and planning that preceded it and determined the project outcomes. Implementation most directly benefited patients and staff by delivering an evidence-based change-of-practice for the care of agitated behavioral health patients in the ED. The WBS outlined how the project would be communicated to all stakeholders, with detail added in the Responsibility/Communications Plan. See Appendix F for the WBS.

Responsibility/Communication Plan

The Responsibility/Communication Plan presented the micro view of stakeholder communications, delineating pertinent details for the ED care teams and other stakeholders. A goal of the communication aspect of the plan was to ensure that the stakeholder groups were not over-saturated with information on the project. Instead, they received the type and amount of communication needed at appropriate points over the course of the project to convey progress and any required modifications due to unanticipated events. The key stakeholders had brief email touchpoints that highlighted the progress of the DNP project and invited questions and observations. Project term meetings and project updates were scheduled to mitigate the possibility of communication lapses or loss of support for the project. The key stakeholders were supportive as the project was aligned with a planned overhaul of behavioral health patient care in the EDs. See Appendix G for the Responsibility/Communication Plan.
SWOT Analysis of Current State

The SWOT analysis provided a mechanism to better understand what elements of the current state could be used to advantage and where problems might be encountered. The SWOT Analysis brought to light at least one item in each SWOT category to which attention was directed. An organizational strength was an ongoing collaboration among members of the healthcare team. An organizational weakness was the absence of an existing agitation scale in the EDs that could be retooled for the project. Thus, a de novo start with an education component was necessary. An opportunity for the ED teams was to build a more robust evidence-based team approach to caring for behavioral health patients in the ED and model it for the healthcare organization. The main threat from the environment was the onset of the COVID-19 pandemic in Northern California in January 2020 and a “second wave” increase in cases in the summer and fall. See Appendix H for the complete SWOT Analysis.

Budget, Financial Feasibility, Impact, and Analysis

Labor costs accounted for 93.63% of the $69,840 budget to implement the agitation scale in three EDs. Nurses in California are the highest-paid nurses in the United States (Incredible Health, 2021). For this project, ED nurses were compensated for their time attending the education sessions in two-hour-minimum blocks, in accordance with the terms of their union contract. The other costs for the project were training materials, supplies, and meals, for 6.37% of the budget at $4,450. See Appendix I for the Budget.

The budget for the initial implementation year of the project was high relative to subsequent years, reflecting the cost of educating the entire nursing staff in all three EDs. The budget feasibility of the project in years two and three, per the pro-forma, projected substantially lower program costs, as agitation management education would be needed only for new hires in
the three EDs. The average turnover for the three departments (together) is approximately 40 RNs annually. The pro-forma reflects current salaries and does not consider increases due to contract negotiations.

In year two, salaries account for 78.58% of the budget ($9,170) and unbudgeted costs for 21.42% ($2,500). In year three, assuming the same turnover of 40 RNs, labor cost is projected at $8,595, slightly less than for year two. This projected decrease reflects a reduced need for clinical director oversight as agitation management is sustained as “standard work.” Fixed costs are further reduced by 40% ($1,000) in year three as only depleted supplies will need to be replaced.

Projecting an increase in workers’ compensation claims from 1.4% to 1.5% (due to trauma incurred from agitated patients), workers’ compensation premiums could increase from 1.40% to 1.56% annually, at an annualized year-on-year cost increase of $50,858. This budget impact is potentially mitigated by the use of the agitation scale as standard practice. Use of the agitation scale is projected to decrease the ED length of stay (LOS) by 15% from 25 hours to 21.25 hours in the ED through earlier assessment and de-escalation and more efficient delivery of appropriate care. This approach would then decrease the amount of uncompensated care within the three EDs from 21.5 hours to 17.75 hours. With early assessment and de-escalation, better agitation management enables the care team to initiate treatment for the patient’s medical condition with less delay. See Appendix J for the Cost Avoidance Projection.
Study of the Intervention

Analysis of the gap between the current and desired state of caring for behavioral health patients in the three EDs indicated the need for process improvement to give nurses better tools to assess and manage agitated patients. Evidence from the literature supported the introduction of an objective agitation assessment tool to foster more therapeutic provider/patient relationships and reduce trauma for patients and staff. Guided by Lewin’s Theory of Change, a process improvement was introduced to enhance understanding of agitation and humane de-escalation options, objectively assess patient agitation, and lessen the psychological and physical trauma incurred by patients and staff from a patient agitation event.

Outcome Measures

The outcome measures for this project were Code Grey activation, use of four-point restraints, and emergent sedation medication administration. The measures were selected by the project lead, who was the Director of Nursing for the three emergency departments, in tandem with the Chief Nurse Executive as tangible indicators of the effectiveness of the agitation scale. The outcome measures reflected the nurses’ response to patient agitation over the continuum from presenting to the ED until discharge. Unconscious bias toward the behavioral health population in the ED has been associated with adverse therapeutic outcomes, including a reluctance to engage in services (Ngune et al., 2021). The three hospitals routinely track Code Grey activation and restraint use, but not the use of emergent sedation medication. While the emergent medication data was present in the electronic healthcare records system, it had not been mined and analyzed to establish the frequency of use on behavioral health patients.
Data Collection Tools

Measurements were taken pre-intervention to establish the baseline, mid-point (45 days), and immediately at the end of the intervention. Confidence in the accuracy of the data was based on its origination in the electronic health records for restraints and emergent sedation medication or the Protective Services Division for Code Greys records. Hospital protocol requires all Code Greys to be initiated by a staff member of the ED and recorded by the Protective Services Division. The data assumes that 100% of Code Grey activations were recorded, and none were unreported. Analysis of outcome measure results was expected to shed light on any differential effectiveness of the agitation scale on the three variables, independently and in combination.

Analysis

Quantitative data were extracted from the electronic health records or obtained from Protective Services. Data were recorded on an Excel spreadsheet for determining the change at specific points in time: baseline, midpoint (45 days), and endpoint of the evaluation period (90 days). Quantitative analysis was used to determine the degree of decrease in the three outcome measures.

Ethical Considerations

Authorization and support to implement the DNP quality improvement project in the three EDs were given by the healthcare organization in which the EDs operate. See Appendix K for the Letter of Support. The project was undertaken following the Code of Ethics of the American Nurses Association (2015), directing nurses to collaborate with other health professionals and the public to protect human rights, promote health diplomacy, and reduce health disparities. The guiding protectorate in the context of the project is to ensure the respectful treatment of all ED patients, emphasizing the fragile population of behavioral health patients.
The Jesuit value of *cura personalis* (University of San Francisco, n.d.), or care of the whole person, guided the DNP project in respecting all individuals involved as “whole persons” beyond their prescribed roles as patients or care providers.

The National Alliance on Mental Illness (NAMI, n.d.), a public policy organization, maintains that all people with mental health conditions deserve access to supports that promote wellness. Behavioral health/patients with mental health conditions deserve the best quality care possible upon entering an ED. People experiencing mental distress can encounter mental health professionals profoundly disabling, muting their experience, compounding isolation and exclusion, and perpetuating stigma and social disadvantage (Newbigging & Ridley, 2018). These experiences compound the need for ongoing social justice activity, evidence-based care, and policy changes to care for and protect this fragile population within our society.

The University of San Francisco determined this evidence-based change of practice project to meet the requirements of a quality improvement project. As a non-research endeavor, IRB review and approval were not required. See Appendix L for the DNP Statement of Non-Research Determination.

**Section IV: Results**

The intervention was carried out in steps that aligned with the three components of Lewin’s change theory: unfreezing, moving, and refreezing. The first stage, initiated in the fourth quarter of 2020, consisted of capturing baseline data and educating the ED nursing, physician, and technician staff on the project and the Bogner paper agitation scale. Data was collected on the adoption of the agitation scale and for the three outcome measures, activation of Code Greys, use of physical restraints, and use of emergent sedation medications, pre-intervention (baseline),
midpoint (45 days), and post-intervention (90 days). Data for the three outcome measures were compared to prior year data for three equivalent points in time.

**Demographics**

The three EDs are staffed by 200 RNs, in the required RN to patient ratio of 1:4. Years of experience in the EDs ranged from less than two to more than 20. Of the 32 RNs who responded to the pre-implementation survey (see below), 15 (47%) had fewer than two years of experience in the EDs, 4 (12.5%) had 3-5 years, 6 (19%) had 6-10 years, 5 (16% ) had 11-15 years, and 2 (6%) had more than 20 years of experience in the 3 EDs. All RNs (100%) participated in the education session prior to implementing the agitation scale.

**Pre-implementation Survey**

A pre-implementation survey was sent to the 200 RNs who staffed the EDs to assess knowledge of patient agitation and familiarity with agitation scales. The survey was administered to RNs as the hospital does not employ licensed vocational nurses in the ED. Technicians were not part of the survey as they are not directly involved in patient care decisions that reflect the use of emergent medications, restraints, or activation of Code Greys. The response rate was 16%, with 32 respondents. Self-identified gender representation was 28 (87.5%) female and 4 (12.5%) male. The highest nursing degree or credential reported were ADN (n=10;31%), BSN (n=20; 63%), and MSN (n=2; 6%).

**Adoption of the Agitation Scale**

Education for the ED nurses began with emails to introduce the project and provide a pathway for participation. All education sessions prior to the “go live” date for using the agitation scale were changed to web-based delivery due to hospital COVID-19 protocols. The educational content did not change.
Staff in all three hospital EDs began using the agitation scale on January 1, 2021. Throughout the three-month “moving” stage of using the agitation scale, no changes were made to the scale itself. After the first two weeks, low rates of adoption of the scale indicated the advisability of sending weekly email reminders to the nursing staff to encourage the use of the scale for patient and staff safety. Email reminders were then sent each Monday for the duration of the project. With continued low rates of staff engagement, encouraging use of the agitation scale was added as a topic for discussion at nursing shift huddles; a practice continued for the duration of the intervention.

ED 2 was an early adopter of the agitation scale, with 28 initial uses of the scale for 43 patients. ED2 staff had experienced a high level of violence prior to project implementation relative to the other two EDs and had a nurse manager who was highly engaged with the potential for change through the intervention. By contrast, ED1 and ED3 were not early adopters of the agitation scale, with only three uses for 35 patients in ED1 and 5 for 42 patients in ED3 when the scale was initiated in January 2021.

Encouragement of the scale’s use had the intended effect for ED1 and ED3 on subsequent adoption and sustained use, although the effect for ED1 lagged behind ED2. In ED2, early adoption was followed by a 61% decrease in the use of the scale in the first month from inception. Scale use increased 209% in the subsequent month (February to March). Each ED was distinctive in the degree of engagement by the nurse manager and the patient population presenting with behavioral health issues. The data suggest the efficacy of the email and staff huddle reminders, even as the teams became fully adapted to the implementation in the refreezing stage of the project. See Appendix M for agitation scale use in each ED.
Results of Outcome Measures

The outcome measures were the changes from baseline in the frequency of Code Greys, use of four-point restraints, and use of emergent sedation medications relative to the number of behavioral health patients presenting for care in the three EDs, measured monthly.

Code Grey Activations

For ED 1, the total number of Code Greys activated were static year over year, calculated monthly for January, February, and March 2020 and 2021. There were 27 Code Greys in January 2020 and 26 in January 2021, a statistically insignificant decrease. February experienced no change, with 44 Code Greys in 2020 and again in 2021. For March 2020 and March 2021, Code Grey activations were 43 and 40, respectively, a statistically insignificant decrease.; these numbers do not illustrate a significant statistical change year over year. See Appendix N Figure 1 for ED1 Code Grey activations.

For ED 2, the number of Code Grey activations changed year over year for all three months. There were 39 Code Grey activations in January 2020 and 54 in January 2021, a 38% increase. February’s Code Grey activation numbers were 35 in 2020 and 58 in 2021, a 65% increase. For March, there were 43 Code Grey activations in 2020 and 55 in 2021, a 28% increase. See Appendix N Figure 2 for ED2 Code Grey activations.

For ED 3, Code Grey activations increased year over year in two of the three implementation months. The January 2020 baseline of 44 Code Grey activations increased to 74 in January 2021, a 68% increase. There were 32 Code Grey activations in February 2020 and 70 activations in February 2021, a 118% increase year over year. In contrast, the Code Grey activations in March 2021 represent a 6% decrease from the March 2020 baseline of 64 Code Grey activations. See Appendix N Figure 3 for ED3 Code Grey activations.
**Code Grey Results in Context.** During the fourth quarter of 2020, staff of the three EDs were mandated to attend workplace violence training offered by the Division of Protective Services. The training was independent of the agitation scale implementation project and slightly preceded agitation scale education (unfreezing in the context of Lewin’s Change Theory). The workplace violence training emphasized the need for the staff to activate Code Greys when a patient was either verbally or physically abusive to the staff. A heightened awareness of triggers for Code Grey activation may have contributed to the increase in Code Greys in EDs 2 and 3 for January through March 2021. However, the staff of ED 1 received the same education at the same time as ED 2 and 3, without a respective increase in Code Grey activations. Nurses in ED 1 were more resistant to the change in nursing practice presented by the use of the agitation scale than nurses in the other two EDs. Although not measured, the absence of an increase in Code Grey activations in ED 1 may suggest a more generalized resistance to practice change and the need for greater attention to resistance in the unfreezing stage of Lewin’s Change Theory in implementations of the agitation scale.

**Use of Four-Point Restraints**

Four-point restraint events decreased year over year from baseline in all three EDs in all three months of project implementation, with an average decrease of 37%. This change in clinical practice is an intended consequence of agitation scale use. Of note for all three EDs is that agitation scale training heightened awareness of patient agitation and the problems associated with four-point physical restraint, which may have had a dampening effect on restraint use, whether the ED nurses use the agitation scale.

In ED 1, agitation scale implementation intended to decrease the use of four-point restraints on patients, year over year for all three months. From the January 2020 baseline of nine
patient four-point restraint incidents, there was an 11% decrease to eight in January 2021. For February, four-point restraint use decreased from 11 at the February 2020 baseline to eight in February 2021, a 27% decrease. March restraint use incidents decreased 36%, from 11 incidents in 2020 to 7 in 2021. See Appendix O Figure 1 for ED 1 four-point restraint use.

ED 2 nursing staff were early adopters of using the agitation scale to decrease the use of physical restraints on patients. January 2020 had 22 incidents of physical restraints, and January 2021 had ten incidents, for a total decrease of 54%. February 2020, 18 patients being physically restrained, and a decrease to 11 incidents in 2021, constituting a 38% decrease year/month over year/month. March 2020 recorded 15 incidents of restraint usage; March 2021 had 11 incidents, for a total decrease of 27% from baseline 2020. See Appendix O Figure 2 for four-point restraint use in ED 2.

In ED 3, incidents of physical restraint use on patients decreased in 2021 from baseline in 2020 for all three months of agitation scale implementation. From January 2020 with 22 incidents to January 2021 with 13 incidents, restraint use decreased 41%. February had a decrease of 32% from 22 incidents in 2020 to 15 incidents in 2021. March restraint use decreased 70% from 2020 to 2021, from 30 patients placed in physical restraints in March 2020 to 9 in March 2021. See Appendix O Figure 3 for four-point restraint use in ED 3.

Education on patient agitation prior to implementation of the agitation scale and the scale’s usefulness in facilitating an informed, humane approach to the care of the agitated patient had the intended effect of decreasing the use of physical restraints in the three EDs in 2021. Although not measured, the workplace violence training at the end of 2020 may have contributed to decreased physical restraint use on patients in the three EDs in 2021 through heightened awareness of problems with physical restraint use. Of note for all three EDs is that agitation scale
training in late 2020 raised awareness of patient agitation and the problems associated with physical restraint, which may have had a dampening effect on restraint use whether or not the ED nurses used the agitation scale. This outcome is consistent with Chapman et al. (2016) findings that nurses who view their role as patient advocates experience discomfort with having to physically restrain patients, feel it should not be part of their work as nurses, and welcome alternatives.

**Emergent Sedation Medication Administration**

Emergent use of sedation medication is associated with patient agitation that the clinical nursing staff cannot verbally de-escalate. ED nurses benefitted from the agitation scale education they received in the fourth quarter of 2020, with observable benefits for patients with agitation scale use. Patient agitation was recognized and assessed earlier, enabling the nursing staff to intervene at a lower level of patient agitation when verbal de-escalation was still an alternative to emergent medication administration.

Emergent medication administration events in ED 1 increased from January 15, 2020 to January 18, 2021. The comparatively small (20%) increase cannot be attributed to any identifiable change of practice but was consistent with increases in January 2021 in ED 2 and ED 3. February 2021 had a 31% decrease in events (26 in February 2020 to 18 in February 2021), while March 2021 had a 40% decrease in events (25 in March 2020 to 15 in March 2021). A decrease in emergent sedation medication events patients was an intended effect of the agitation scale implementation project. See Appendix P Figure 1 for emergent sedation medication administration ED 1.
Year over year in January, ED 2 experienced a 17% increase from 18 events in 2020 to 21 in 2021, consistent with the increase in ED 1 but not attributable to any observed change of practice. February had a decrease of 5% in events (20 in February 2020 to 19 in February 2021), while the decrease for March was 41% (22 in March 2020 to 13 in March 2021). The accelerated decrease in March 2021 relative to February 2021 is attributed to Lewin's theory's moving, and refreezing stages, where a change of practice was encouraged through education and reminders encouraged integration into practice. See Appendix P Figure 2 for emergent sedation medication administration ED 2.

Emergent medication use in ED 3 was higher in January 2021, with 22 patient events than in January 2020, with 19 events, an increase of 16%. Consistent with the other two EDs, the increase is not attributed to any observable change of practice. By contrast, emergent medication use in February decreased from 22 events in 2020 to 20 in 2021 is a decrease of 9%. A March from 30 emergent medication events in 2020 to 18 in 2021, a decrease of 40%. This pattern of change reflects the moving stage of Lewin’s theory in February and refreezing the change process in March 2021. See Appendix P Figure 3 for emergent sedation medication administration ED 3.

While the increases in emergent medication events in January 2021 relative to January 2020 are not attributed to any observable practice changes, a contributing factor may have been the adoption of COVID-19 protocols in December 2020 and the heightened anxiety about the disease as the pandemic began to spike in January 2021. The need to ensure the safety of patients and staff in a time of rapidly shifting protocols newly imposed precautions, and tremendous uncertainty, may have affected provider decisions to use emergent sedation medication. Two January holidays during the onset of the COVID-19 pandemic, the first to celebrate the New
Year and the second for the Martin Luther King holiday, may have contributed to the slight increase observed in January 2021.

Section V: Discussion

Summary

The project's specific aim was to decrease Code Grey activations, use of physical restraints, and administration of emergent sedation medication. The use of the agitation scale by nurses in the three EDs decreased physical restraint and emergent sedation medication for agitated patients. An increase in Code Grey activation early in project implementation was attributed to the workplace violence training conducted by the Division of Protective Services coincident with the education phase of agitation scale implementation. The simultaneous occurrence of the two independent programs brought heightened attention to how quickly and unexpectedly patient agitation can escalate. As nurses gained familiarity with the agitation scale and confidence in its efficacy during the moving stage of the implementation, Code Grey activations decreased.

The project outcomes were attributed to the implementation of the agitation scale itself, accompanied by ongoing communication to guide the teams and encourage acceptance of a change to their workflows. With Lewin's Change Theory underscoring project design, stakeholders understood that change would take time as the project cycled through the stages from initial unfreezing to final refreezing to solidify the change. The patterns observed in the three outcome measures over the duration of agitation scale implementation in the three EDs were consistent with expectations for the project's unfreezing, moving, and refreezing stages.

Possibilities for modification or expansion of the implementation emerged over the course of the project. One possibility is to have the agitation scale built into the EHR as an assessment
rather than added to the notes section, as implemented. While requiring executive leadership’s authorization, such a change would benefit all ED patients and staff by providing a tool for early, objective assessment of potential agitation for any ED patient. The increase in Code Grey activations that followed the coincident workplace violence training and agitation scale education suggested a benefit of a more robust and coordinated treatment approach to workplace violence prevention and the use of an agitation scale. Patient agitation is not confined to the ED; instead, it is a concern for patients and staff throughout the hospitalization. A collaboration between Protective Services and Nursing would advance nurses’ understanding of agitation management and patient/provider safety across the continuum of acute care hospitalization and into outpatient care.

**Interpretation**

The intervention of an agitation scale into the healthcare team workflows for the three EDs displayed that the agitation scale impacted the frequency of four-point restraint use, emergent sedation medication administration, and Code Grey activation. There was an initial increase in four-point restraint use and medication administration, followed by a decrease in months two and three. This finding fills a gap in the literature on agitation management and points to the need for further studies to investigate possible confounding variables and sustainability of agitation scale use as a standard protocol in the ED.

The use of the agitation scale over the short duration of the project contributed to a better environment in the ED for the care of behavioral health patients fostered by a better understanding of agitation in the fragile behavioral health population in the ED. While not measured in this quality improvement project, the observed decrease in the use of four-point restraints and administration of emergent medication administration may have been a
contributing factor as the interventions are traumatizing to the patients and the staff administering them. Davids et al. (2021) captured the trauma in interviews with nurses on their first experience in restraining patients: “We didn’t cover it in an orientation… I was…like what is happening? I was mortified…” (p. 3). Yap et al. (2017) captured an agitated patient’s view of being sedated in the ED: “I am just freaking out a bit. I know that people are busy, but we’re talking about a day that I don’t remember…I don’t feel well…” (p. 963). Further studies are needed to gather staff and patient perspectives on using the agitation scale for earlier assessment and de-escalation of agitation when more humane interventions are an option for staff.

No opportunity costs or trade-offs to implementation of the agitation scale were identified. Analysis of the overall implementation, nurse adoption of the agitation scale, and specific outcomes suggest that building the agitation scale into the EHR would sustain the declining use of emergent sedation medication and physical restraints observed over the project. This assumption is based on the premise that building the agitation scale into the EHR would give ED leadership better reporting tools and data to inform beneficial changes to the care of behavioral health patients. Continued use of the agitation scale, followed by its adoption as “standard work” seen to benefit both patients and staff, will be needed to sustain the early gains of the process change.

**Limitations**

The emergence of the COVID-19 global pandemic during project implementation and data collected may have compromised the internal validity of the data. Changes occurred quickly with the imposition of a stay-at-home order that reduced the patient census in all three EDs. Fewer patients came to the ED; no data was collected to know if the proportion of behavioral health patients in the ED had changed. The lower patient census and a less hectic ED may have
encouraged nurses to add the agitation scale to their workflow. By contrast, heightened concerns about COVID-19 transmission and safety may have discouraged nurses from deviating from customary patient care practices to deal with new safety and patient care protocols imposed on hospital staff. An initial increase in Code Grey activations was an unexpected outcome that, in hindsight, is likely attributable to the workplace violence training given by the Protective Services Division prior to agitation scale implementation. The workplace violence training in proximity to the educational component of the agitation scale implementation may have distorted the observed associations between agitation scale adoption and the outcome measures. Workplace violence training did not occur in the fourth quarter of 2020, introducing a possible confounding variable in comparing 2020 and 2021 Code Grey, restraint, and emergent medication events.

Conclusions

The outcomes of the agitation scale implementation project demonstrated the scale’s value in effecting change for the more humane care of behavioral health patients in EDs. Using the agitation scale in the three EDs, the RNs better understood a patient’s agitated state. They could intervene earlier and more appropriately, without reflexively falling back on Code Grey activation, using physical restraints, or administering emergent sedation medication. The outcomes of the agitation scale implementation project were consistent with evidence from the literature that early assessment of agitation combined with prompt, proactive management of agitated patients could lessen the need for the customary practice of “restrain and sedate” when nurses encounter patient agitation events. Education and ongoing encouragement to use the agitation scale, aligned with the unfreezing and moving stages of Lewin’s Change Theory, were critical to adopting the agitation scale and its integration into standard work. This project was
not sustained past the 90-day implementation due to the organizational and financial constraints brought on by the COVID-19 pandemic. However, the results of using the paper agitation scale over three months suggested the benefit to staff and patients of including the agitation scale in the patient's electronic health record. This approach would facilitate better-informed patient care across the continuum of a patient’s hospital stay, from the ED to subsequent care, for example, in medical/surgical and inpatient psychiatric units. With increased numbers of behavioral health patients presenting to an ED relative to overall ED presentations, further research on agitation assessment and management is needed. The use of an agitation scale in EDs, and recognition of its effectiveness in mitigating patient and staff trauma, can perhaps spark a much-needed change to the care of a fragile and vulnerable patient population.

**Section VI: Funding**

The funding for this DNP project was from the general ED nursing care budget. The agitation scale education was mandatory for all ED RNs. The nursing education budget funded the hours required for the nurses to participate.
Section VII: References


https://doi.org/10.1016/j.ienj.2021.101017


http://dx.doi.org/10.1080/00207411.2017.1295781


Mitchell, G. (2013). Selecting the best theory to implement planned change. Nursing
Management, 20(1), 32-37. DOI: 10.7748/nm2013.04.20.1.32.e1013


University of San Francisco (n.d.). *Cura personalis*. https://www.usfca.edu/about-usf/who-we-are/our-values/cura-personalis


http://dx.doi.org/10.1016/j.jcjq.2017.11.011


http://dx.doi.org/10.1111/acem.13826


## Appendix A
### Evaluation Table

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<th>Conceptual Framework</th>
<th>Design / Method</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
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<td>None ED</td>
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<td>Appropriate care is needed for patients presenting with agitation. Non-Research Evidence: Clinical Practice Guidelines Level IV. Quality: Good Worth: Acceptable, nothing new in treating agitated patients. Good reminder. Feasibility: Moderate Conclusion: Clinical guidance and rapid treatment.</td>
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APA Citation:

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<td>Recommendations: useful to practice but should already be common practice in EDs.</td>
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Definition of abbreviations: ED: Emergency Department. N/A Not applicable
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| Guidance for clinicians in caring for agitated patients with primary dx: schizophrenia and bipolar. | N/A | Narrative Review | N/A | N/A | N/A | N/A | N/A | Clinical Practice Guidelines 
Level IV 
Low Quality 
Worth: guiding principles, low worth to practice. 
Strength: guidance 
Weakness: anecdotal information – not a study lead to zero conclusions. 
Conclusions: practice guidelines zero conclusions |
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<th>Design / Method</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
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**Definition of abbreviations:** DX: diagnosis
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|----------------------------|---------------------|-----------------|-----------------|-----------------------------------------------|-------------------------------|--------------|---------------|---------------------------------------------------------------|
| Guidance in caring for acutely agitated patients. | N/A | N/A | None | N/A | N/A | N/A | Verbal de-escalation is key in decreasing agitation but if not feasible utilize other intervention s, too. | Non-Research Evidence Appraisal Organizational Experience Quality Improvement Level V.

Worth: guiding principles that should already be in place in EDs but if they aren’t. Use their recommendations.

Strength: reminder to clinical staff to utilize other interventions prior to restraints.

Weakness: Zero data to back-up their recommendations.

Conclusions: Reminder of how


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<td>to treat the fragile population but clinicians should already treat them humanely as possible.</td>
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Discover the risk events

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<td>N/A</td>
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<td>that are incurred after the use of parenteral medication for agitation.</td>
<td>trial of parenteral sedation regarding acute agitation management and prospective observational study</td>
<td>were enrolled. 12 Eds in Australia</td>
<td>adverse events post sedation medication administered. Hypoventilation Oxygen desaturation Prolonged QTc Tachycardia Extrapyramidal side effects Vomiting Anticholinergic side effects Falls Anaphylaxis</td>
<td>from patient medical records. Number of patients that experienced an AE and total number of patients admitted to the study. AE observed 95%CI + 10.9%-16.7% in the expected range. intoxicated patients, patients managed with parenteral sedation medications have an increased risk of AEs. Closely monitoring these patient populations could decrease AEs.</td>
<td>intoxicated patients, patients managed with parenteral sedation medications have an increased risk of AEs. Closely monitoring these patient populations could decrease AEs.</td>
<td>Worth: Yes, this practice would be beneficial for patients and healthcare workers to use.</td>
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<td>safety for the patients and staff caring for them.</td>
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Definitions: N/A not applicable, AE: Adverse Event, ED: Emergency Department

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| To elicit information from patients that have been restrained in emergency departments and their feelings associated with the event. | N/A | Qualitative Semi-structured interview 1:1. | 25 adults over the age of 18. Sample was from 2 EDs in Urban Northeast city. | Demographic information Self-reported responses to the MacArthur Perceived Coercion Scale Physical restraint experiences | Transcripts were analyzed and coded into themes and subthemes. Harmful experiences of restraints use and care Diverse and complex personal contexts affecting visits Challenges in resolving their restraint experiences, leading to negative consequences | SPSS V.21.0 The themes of lack of care, coercion to be in the ED, long term psychological trauma, mostly negative experiences during their ED stay. | Care of this fragile population needs to be therapeutic, humanizing, and less traumatic. HCW need to realize the long-term trauma that goes with being restrained. | Qualitative Level III, High/Good Quality. Worth to practice: Yes, it should be brought up that being restrained is traumatic physically and psychologically to the patient. This is most important to be able to better care for this population. Strength: Personal interviews gives a in depth understanding of the trauma. Weakness: Not quantifiable Feasibility: Yes, it is treating everyone like a human. Conclusion: Caring for patients humanely is necessary as people are fragile and need to be cared for and not left with long term}
### APA Citation:

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<tr>
<td>Validate and research 3 different agitation scales in the ED</td>
<td>N/A</td>
<td>Primary prescriptive study</td>
<td>Prospective study</td>
<td>95 patients</td>
<td>Subsets of agitated patients</td>
<td>RA performed their assessment via direct observation or retrospective EHR review.</td>
<td>95 patients: Gender, Race, ethnicity, triage chief complaint EMS reports of etoh/drugs Apparent impairment Clinical analysis</td>
<td>Most patients received sedatives, low volume were restrained, demographic s and restraint/sedative use was found to have no correlation.</td>
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<tr>
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<td>Adult ED academic referral center in mid-size city in New England that has approximately 100,000 visits per year.</td>
<td>Restraints Sedatives administered 3 different scales</td>
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Definition of abbreviations: ED: emergency department, RA: research assistant, HER: electronic medical record, EMS: emergency medical service, N/A: not applicable

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| Restraint use in a psychiatric emergency department | N/A | Systematic retrospective case by case review of restraint orders | 95 patients between January and June 2016 ED New York | Self-reported drug use  
Primary diagnosis  
Documentation of type and duration of restraint used  
Demographic characteristics | Males required restraints more than females, age difference between males and females noted that older females versus younger males  
Manual hold restraint was the most common. | Males more likely to be restrained than females. Marijuana was the drug of choice and then polysubstance. | Correlation between primary dx and use of restraints. | Quantitative Level III Good Quality  
Worth: valuable information  
Strength: six-month retro study  
Weakness: Urban environment, need further study in other environments.  
Conclusions: UDS/primary dx are reminders that substance abuse and hx of psych can lead to use of restraints.  
Recommendations: need further study in different environments and demographics. |

125-132 [http://dx.doi.org/10.1080/00207411.2017.1295781](http://dx.doi.org/10.1080/00207411.2017.1295781)
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<tr>
<th>Purpose of Article or Review</th>
<th>Conceptual Framework</th>
<th>Design / Method</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
</table>

Definition of abbreviations: N/A: not applicable, ED: emergency department, DX: diagnosis,
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Conceptual Framework</th>
<th>Design / Method</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violence and substance abuse in an ED.</td>
<td>N/A</td>
<td>Retrospective cohort study</td>
<td>548 incidents of code grey and code black in an emergency department over 5.5 years.</td>
<td>Code Grey violence without weapon</td>
<td>Code Black violence with weapon</td>
<td>Using risk management data base to deduce the number of incidents. Data mining of the incident reporting system.</td>
<td>Intoxication was leading cause of violence. Males under the influence had higher instance of violence.</td>
<td>Substance abuse and mental health are common triggers for violence. Quantitative Level III. Good Quality Worth: reminder that substance abuse and hx of psych dx correlates to higher probability of violence. Strength: large sample size, large date period Weakness: violence not always reported, narrative information versus visualization of incidents. This research is informative and needs to have prospective study for validation of incidents of violence in an ED.</td>
</tr>
</tbody>
</table>

APA Citation:
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Conceptual Framework</th>
<th>Design / Method</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
</table>

Definition of abbreviations: ED: emergency department, N/A: not applicable, HX: history, DX: diagnosis
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Conceptual Framework</th>
<th>Design / Method</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>System framework to care for the agitated patient in EDs.</td>
<td>N/A</td>
<td>Mixed Methods</td>
<td>57 participants at academic site and community site.</td>
<td>Simulated agitated patient encounter (watching) Then focus groups to speak about the encounter they witnessed. Survey of violence exposures.</td>
<td>Variables were 57 participants version of the agitated patient encounter they had to watch.</td>
<td>SPSS Version 21.0</td>
<td>Effective communication within the teams, mutual support, conflicting emotions from staff on agitated patients and how to care for them.</td>
<td>Mixed Methods</td>
</tr>
</tbody>
</table>

Quantitative Level III Good Quality

Qualitative Level III Good Quality

Convergent Good Quality

Worth to Practice: Good idea for a overall framework

Strength: differing views of the same incident leads to better understanding of team members understanding of the agitated patient and their responses to the situation.

Weakness: Unable to quantify the perceived difference.

<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Conceptual Framework</th>
<th>Design / Method</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Feasibility: Not feasible to initiate in EDs at this time.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Conclusion: Study highlights the differences of perception of incidents in the emergency department.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Recommendations: Low probability of actual implementation.</strong></td>
</tr>
</tbody>
</table>
Appendix B
Authorization to Use Agitated Behavior Scale

From: Bogner, Jennifer <Jennifer.Bogner@osumc.edu>
Date: Sat, Aug 15, 2020 at 9:15 AM
Subject: Re: Permission to Use Agitated Behavioral Scale
To: Adam Pelzl <apelzl@dons.usfca.edu>, Jennifer Bogner <bogner.1@osu.edu>
Cc: John Corrigan <johncorrigan1@me.com>

Adam,

Thank-you for reaching out. You may use the Agitated Behavior Scale as long as it is not altered in any way. If you need to incorporate it into the EMR, send a screen shot of the data entry screen for approval. I have attached some training materials that you may find helpful.

Jennifer Bogner, PhD, ABPP, FACRM
Professor
Vice Chair of Research and Academic Affairs
Director, Division of Rehabilitation Psychology
Department of Physical Medicine and Rehabilitation
Ohio State University
480 Medical Center Drive
Columbus, Ohio 43210

From: Adam Pelzl <apelzl@dons.usfca.edu>
Date: Tuesday, August 11, 2020, at 3:50 PM
To: Jennifer Bogner <bogner.1@osu.edu>
Subject: Permission to Use Agitated Behavioral Scale

Good Afternoon Dr. Bogner,

My name is Adam Pelzl, I am a student at University of San Francisco in the Executive Leadership Doctor Nurse Practice. I am starting a quality improvement project for school at the 3 hospitals that I am employed with. The quality project is to utilize your ABS on emergency department patients within San Francisco California. The scale would be used on behavioral health patients to have a baseline agitation scale and use the form to quantify the patient’s agitation during their length of stay in the ED.

Thank you for your time
Appendix C

AGITATED BEHAVIOR SCALE

Patient ______________________  Period of Observation:

Observ. Environ._________________  From:______p.m.____/____/____

Rater/Disc.____________________  a.m.

To:______p.m.____/____/____

a.m.

At the end of the observation period indicate whether the behavior described in each item was present and, if so, to what degree: slight, moderate or extreme. Use the following numerical values and criteria for your ratings.

1 = absent: the behavior is not present.

2 = present to a slight degree: the behavior is present but does not prevent the conduct of other, contextually appropriate behavior. (The individual may redirect spontaneously, or the continuation of the agitated behavior does not disrupt appropriate behavior.)

3 = present to a moderate degree: the individual needs to be redirected from an agitated to an appropriate behavior, but benefits from such cueing.

4 = present to an extreme degree: the individual is not able to engage in appropriate behavior due to the interference of the agitated behavior, even when external cueing or redirection is provided.

DO NOT LEAVE BLANKS.

1. Short attention span, easy distractibility, inability to concentrate.
2. Impulsive, impatient, low tolerance for pain or frustration.
3. Uncooperative, resistant to care, demanding.
4. Violent and or threatening violence toward people or property.
5. Explosive and /or unpredictable anger.
6. Rocking, rubbing, moaning or other self-stimulating behavior.
7. Pulling at tubes, restraints, etc.
8. Wandering from treatment areas.
9. Restlessness, pacing, excessive movement.
10. Repetitive behaviors, motor and/or verbal.
11. Rapid, loud or excessive talking.
12. Sudden changes of mood.
13. Easily initiated or excessive crying and/or laughter.
14. Self-abusiveness, physical and/or verbal.

Total Score

© reserved 1989, The Ohio State University
DO NOT LEAVE BLANKS.

1. Short attention span, easy distractibility, inability to concentrate.
2. Impulsive, impatient, low tolerance for pain or frustration.
3. Uncooperative, resistant to care, demanding.
4. Violent and or threatening violence toward people or property.
5. Explosive and/or unpredictable anger.
6. Rocking, rubbing, moaning or other self-stimulating behavior.
7. Pulling at tubes, restraints, etc.
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12. Sudden changes of mood.
13. Easily initiated or excessive crying and/or laughter.
14. Self-abusiveness, physical and/or verbal.

Total Score

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Appendix D

Gap Analysis

<table>
<thead>
<tr>
<th>Current State</th>
<th>Future State</th>
<th>Gap</th>
<th>Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently there is not an agitation scale in the</td>
<td>Agitation scale implemented in the emergency</td>
<td>For an unforeseen reason there is not an agitation scale in the ED or within the healthcare system. This gap leads to patient and staff safety concerns.</td>
<td>In collaboration with key stakeholders an agitation scale will be trialed within the emergency departments for behavioral health patients.</td>
</tr>
<tr>
<td>emergency departments.</td>
<td>departments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of understanding from ED Leadership on the</td>
<td>ED leadership will have a grasp of the knowledge</td>
<td>Knowledge deficit from leadership on their own staff nurse’s education, training, and understanding of an agitated patient.</td>
<td>1. Develop a survey for the staff nurses to gauge their knowledge related to agitated behavioral health patients that present to the emergency department. 2. After the survey education will be tailored to engage the staff nurses learning deficits and increase their knowledge base. 3. Following education another survey will be sent to the staff to gauge their understanding after the education.</td>
</tr>
<tr>
<td>staff nurses understanding of agitation.</td>
<td>deficit of their staff nurses.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Current State</th>
<th>Future State</th>
<th>Gap</th>
<th>Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff knowledge deficit regarding agitation and presentation of agitation in their behavioral health patients.</td>
<td>Increase in knowledge and understanding of agitated patients</td>
<td>Lack of knowledge to understand that the patient is escalating, and this escalation could lead to a code grey, emergent medication administration, restraints, or any combination of the 3.</td>
<td>Develop education on the surveys that the staff will submit on their knowledge deficit.</td>
</tr>
<tr>
<td>No Form</td>
<td>Utilize notes section in the EHR for the agitation scale.</td>
<td>New workflow that RNs will need to remember on each BH patient.</td>
<td>Daily huddles, flyers, staff meetings to guide and remind the staff to use the notes section for the agitation scale that is built in using smart notes.</td>
</tr>
<tr>
<td>Agitation scale not approved by HIM</td>
<td>Approved by HIM to have placed in patients' chart</td>
<td>Need smart note in Notes section approved by all key stakeholders and HIM</td>
<td>Meetings via skype to bring key stakeholders together to approve the agitation scale.</td>
</tr>
<tr>
<td>Lack of knowledge of project with key MD stakeholders</td>
<td>Knowledge and understanding increased</td>
<td>Knowledge deficit from MDs.</td>
<td>Bring the key MDS together and speak about the agitation scale. This will allow time to have Q&amp;A for better understanding</td>
</tr>
</tbody>
</table>
### Appendix E

**GANTT Chart**

<table>
<thead>
<tr>
<th><strong>EL-DNP Calendar &amp; Important Dates:</strong></th>
<th><strong>2020</strong></th>
<th><strong>2021</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education Roll out for Project</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Emails to staff regarding education sign ups</td>
<td>Nov 1, 2020</td>
<td>Mar 10, 2021</td>
</tr>
<tr>
<td>Web-Based education for RNs, 3 Emergency Departments</td>
<td>Dec 1, 2020</td>
<td>Mar 17, 2021</td>
</tr>
<tr>
<td>Web-Based education for MDs, 3 Emergency Departments</td>
<td>Jan 1, 2021</td>
<td>Mar 24, 2021</td>
</tr>
<tr>
<td>Email reminders to all ED RNs, MDs of start 12.16 to 1.4</td>
<td>Jan 15, 2021</td>
<td>Apr 1, 2021</td>
</tr>
<tr>
<td>Shift Huddle reminders 3 ED</td>
<td>Feb 1, 2021</td>
<td>Apr 15, 2021</td>
</tr>
<tr>
<td>Final Reminder to MD</td>
<td>Feb 28, 2021</td>
<td>May 1, 2021</td>
</tr>
<tr>
<td><strong>Project Implementation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning Huddle reiteration on project implementation</td>
<td>Mar 2, 2021</td>
<td>Oct 1, 2021</td>
</tr>
<tr>
<td><strong>Data Analysis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Analysis and Synthesis</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Final Project Writing</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Color Key**
- **Project Milestones**
- **Pre-Implementation**
- **Implementation**
- **Data Analysis**
- **Final Project Writing**
Appendix F

Work Breakdown Structure
# Appendix G

## Communication Plan

<table>
<thead>
<tr>
<th>Communication</th>
<th>Purpose</th>
<th>Medium</th>
<th>Frequency</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick Off Meeting</td>
<td>Project overview, goals, duration, key concepts</td>
<td>Skype</td>
<td>Once</td>
<td>CNO, COO, SNE, ED Medical Director, Chair of Psychiatry</td>
</tr>
<tr>
<td>Project Team Meetings</td>
<td>Update on the project</td>
<td>Email or Skype or In Person</td>
<td>Weekly</td>
<td>ED Managers, ED Educator</td>
</tr>
<tr>
<td>Agitation Scale Results</td>
<td>Update on utilization of scale</td>
<td>Email</td>
<td>Weekly</td>
<td>ED Managers, ED Educator, SNE, CNE</td>
</tr>
<tr>
<td>Go-Live</td>
<td>Go-Live</td>
<td>Email</td>
<td>Once</td>
<td>CNO, COO, ED Medical Director, Chair of Psychiatry</td>
</tr>
<tr>
<td>Project Status Updates</td>
<td>Update on progress</td>
<td>Email</td>
<td>Monthly</td>
<td>ED Managers, ED Educator, SNE, CNE</td>
</tr>
<tr>
<td>Project End</td>
<td>Reminder of project ending</td>
<td>Skype</td>
<td>Once</td>
<td>CNO, COO, SNE, ED Medical Director, Chair of Psychiatry</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------</td>
<td>-------</td>
<td>------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Final Results</td>
<td>Success</td>
<td>Skype or email</td>
<td>Once</td>
<td>CNO, COO, SNE, ED Medical Director, Chair of Psychiatry</td>
</tr>
</tbody>
</table>
## Appendix H

SWOT Analysis

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strong collaboration within the healthcare team</td>
<td>• Census decrease related to COVID-19 second wave resulting in renewing of shelter in place</td>
</tr>
<tr>
<td>• Psychiatry residents to see behavioral health patients</td>
<td>• No current form to quantify the scale of agitation</td>
</tr>
<tr>
<td>• Decrease in emergent sedation medication administration</td>
<td>• In ability to speak same language within the healthcare team</td>
</tr>
<tr>
<td>• Increase collaboration among the diverse care team groups</td>
<td>• Lack of an agitation scale</td>
</tr>
<tr>
<td></td>
<td>• Lack of buy in from clinical staff</td>
</tr>
<tr>
<td></td>
<td>• Staff not attending education regarding the roll out of agitation scale</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reduction of complaints to regulatory agencies regarding the care of the behavioral health patient</td>
<td>• COVID-19 second wave resulting in renewing of shelter in place</td>
</tr>
<tr>
<td>• Reduction of penalty fees from regulatory agencies regarding the use of sedation medication that could be construed as chemical restraints</td>
<td>• Regulatory complaints that result in penalties and fines</td>
</tr>
</tbody>
</table>
## Appendix I

### Budget

### Operational Period

<table>
<thead>
<tr>
<th>Category of Costs</th>
<th>Quantity</th>
<th>Labor Hours</th>
<th>Total Labor Hours</th>
<th>Costs</th>
<th>Other Costs</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Salaries and Wages (includes benefits at 15%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personnel</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Education all RNs</td>
<td>200</td>
<td>2</td>
<td>400</td>
<td>$85.00</td>
<td>$0.00</td>
<td>$34,000.00</td>
</tr>
<tr>
<td>New RN education yearly</td>
<td>40</td>
<td>2</td>
<td>80</td>
<td>$85.00</td>
<td>$0.00</td>
<td>$6,800.00</td>
</tr>
<tr>
<td>In person meetings, virtual meetings, and emails</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Educator</td>
<td>1</td>
<td>10</td>
<td>10</td>
<td>$85.00</td>
<td>$0.00</td>
<td>$850.00</td>
</tr>
<tr>
<td>Clinical Director</td>
<td>1</td>
<td>200</td>
<td>200</td>
<td>$115.00</td>
<td>$0.00</td>
<td>$23,000.00</td>
</tr>
<tr>
<td>Admin Assistant</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive Sponsor</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>$185.00</td>
<td>$0.00</td>
<td>$740.00</td>
</tr>
<tr>
<td><strong>S&amp;W subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$65,390.00</strong></td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>3</td>
<td></td>
<td></td>
<td>$150.00</td>
<td>$0.00</td>
<td>$450.00</td>
</tr>
<tr>
<td>Training Materials</td>
<td>3</td>
<td></td>
<td></td>
<td>$1,000.00</td>
<td>$0.00</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Meals and Refreshments</td>
<td>200</td>
<td></td>
<td></td>
<td>$5.00</td>
<td>$0.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td><strong>Expense Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$4,450.00</strong></td>
</tr>
</tbody>
</table>

### Project wage and hour assumptions
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment Subtotal</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total</td>
<td>$69,840.00</td>
</tr>
<tr>
<td>Less salaries and benefits in existing operating budgets</td>
<td>$65,390.00</td>
</tr>
<tr>
<td>Total unbudgeted costs</td>
<td>$4,450.00</td>
</tr>
</tbody>
</table>
### Appendix J

Cost Avoidance Projection

<table>
<thead>
<tr>
<th>Cost Avoidance Measure</th>
<th>Cost of Investment</th>
<th>Annual Cost</th>
<th>New Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education on the use of the agitation scale</td>
<td>$65,390.00</td>
<td>$6,800.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Workers Comp Premium Increase per RN</td>
<td>1.4% per employee</td>
<td></td>
<td>$254.29</td>
</tr>
<tr>
<td>Workers Comp Premium Increase for 3 EDs</td>
<td>1.56% per employee increased</td>
<td></td>
<td>$50,858.00</td>
</tr>
<tr>
<td>200 RNs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnover</td>
<td>20% of RNs turnover per year</td>
<td></td>
<td>$3,280,000.00</td>
</tr>
<tr>
<td>ED LOS</td>
<td>Decrease by 15% from 25 hours to 21.25 hours</td>
<td></td>
<td>Decrease uncompensated care hours from 21.5 hours to 17.75</td>
</tr>
<tr>
<td>Psychiatric Inpatient LOS average</td>
<td>6.51 days average stay decrease by 10%</td>
<td></td>
<td>Decrease LOS to 5.859 day</td>
</tr>
</tbody>
</table>
Appendix K

Letter of Organizational Support

This is a letter of support for Adam Pelzl to implement his DNP Comprehensive Project, Imitation of an Agitation Scale for Behavioral Health Patients in the Emergency Departments at Mission Bernal Campus, Van Ness Campus, and Davies Campus of Sutter Health/CPMC.

Tina Bray
Chief Nurse Executive
Sutter Health/CPMC
Appendix L

Statement of Non-Research Determination

UNIVERSITY OF SAN FRANCISCO  
School of Nursing and Health Professions

Doctor of Nursing Practice  
Statement of Non-Research Determination (SOD) Form

The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E

General Information

Last Name: Pezl
First Name: Adam
CWID Number: 20582719
Semester/Year: Fall 2020
Course Name & Number: N792E Practicum III Meso-
Chairperson Name: Dr. Elena Capella
Advisor Name: Dr. Elena Capella

Project Description

1. Title of Project

Implementation of an agitation scale in emergency departments to reduce the use of emergent sedation medication, code greys, and restraints.

2. Brief Description of Project

Clearly state the purpose of the project and the problem statement in 250 words or less.

This project is to implement an agitation scale into three distinct urban emergency departments in Northern California. The project should decrease code greys, restraint application, and emergent administration of sedation medications. The nurses will have a survey prior to training to gauge their effectiveness on noticing agitation. After education and the one month trial the nurses will receive another survey to gauge their understanding and effectiveness on patient’s agitation and escalation. The agitation scale will be implemented via paper and then scanned into the chart. There will be education for the emergency department physicians on the new tool for them to understand use and outcome of the agitation scale.

3. AIM Statement: What are you trying to accomplish?

- What do you hope to accomplish with this project? Aims should be SMART, specific, clear, well-defined, and at a minimum describe the target population, the desired improvement, and the targeted timeframe.
**DNP Statement of Determination**

**Evidence-Based Change of Practice Project Checklist***

The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E

**Project Title:** Implementation of an agitation scale in three emergency departments in Northern California.

<table>
<thead>
<tr>
<th>Mark an “X” under “Yes” or “No” for each of the following statements:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim of the project is to improve the process or delivery of care with established/accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The specific aim is to improve performance on a specific service or program and is a part of usual care. All participants will receive standard of care.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project is not designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does not follow a protocol that overrides clinical practice.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does not develop paradigms or untested methods</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does not seek to test an intervention that is beyond current science and experience.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project has no funding from federal agencies or research-focused organizations and is not receiving funding for implementation-research.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: “This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.”</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Answer Key:**
- If the answer to all of these items is “Yes”, the project can be considered an evidence-based activity that does not meet the definition of research. IRB review is not required. Keep a copy of this checklist in your files.
- If the answer to any of these questions is “No”, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.*
DNP Statement of Determination

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: http://answers.hhs.gov/ohrp/categories/1569
DNP Statement of Determination
Evidence-Based Change of Practice Project
Checklist Outcome
The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E

Project Title:
Implementation of an agitation scale in three emergency departments in Northern California.

X This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

☐ This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

Student
Last Name: Peizi
First Name: Adam

CWID Number: 20582719

Semester Year: Fall 2020

Student Signature: ____________________________

Date: 08/14/2020
DNP Statement of Determination

Chairperson Name: Dr. Elena Capella

Chairperson Signature: Elena Capella

Date: 10/13/21

DNP SOD Review Committee Member Name: Dr. KT Waxman

DNP SOD Review Committee Member Signature: [Signature]

Date: 10/23/21
DNP Statement of Determination

Chairperson Name: Dr. Elena Capella

Chairperson Signature: Elena Capella

Date: 10/13/21

DNP SOD Review Committee Member Name: Dr. KT Waxman

DNP SOD Review Committee Member Signature:

Date: xxx
Implementation of an agitation scale in three emergency departments in Northern California.

X This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). **Student may proceed with implementation.**

☐ This project involves research with human subjects and **must be submitted for IRB approval before project activity can commence.**

**Comments:**

<table>
<thead>
<tr>
<th>Student Last Name:</th>
<th>Student First Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelzl</td>
<td>Adam</td>
</tr>
</tbody>
</table>

CWID Number: __________________________

Semester Year: Fall 2020

Student Signature: Adam Pelzl

Date: 08/14/2020
Appendix M
Agitation Scale Use

Figure 1

ED 1 Agitation Scale Use

Figure 2

ED 2 Agitation Scale Use
Figure 3

ED 3 Agitation Scale Use
Appendix N

Code Grey Activations

Figure 1

*Code Grey Activations in ED1*

![Figure 1](image)

Figure 2

*Code Grey Activations in ED2*

![Figure 2](image)
Figure 3

*Code Grey Activations in ED3*

![Graph showing Code Grey Activations in ED3](chart)
Appendix O
Four Point Restraint Use

Figure 1
Four-Point Restraint Use in ED 1

Figure 2
Four-Point Restraint Use in ED 2
Figure 3

Four-Point Restraint Use in ED 3
Appendix P
Emergent Sedation Medication Administration

Figure 1
*Emergent Sedation Medication Administration in ED 1*

![Graph showing patients receiving emergent medication by month for 2020 and 2021.]

Figure 2
*Emergent Sedation Medication Administration in ED 2*

![Graph showing patients receiving emergent medication by month for 2020 and 2021.]

Figure 3

*Emergent Sedation Medication Administration in ED 3*