Workplace Violence Prevention in the Emergency Department

Utilizing the Broset Violence Checklist

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July 21, 2023

Abstract

Workplace violence (WPV) is an epidemic in healthcare and is particularly a problem in high-risk areas of the hospital, such as the Emergency Department (ED). Literature reviewed consisted of minimal information supporting a proactive tool to identify patients at risk for violence in the ED. The focus of this project was to implement the Broset Violence Checklist (BVC) in the ED to proactively identify patients at high risk for violence and allow staff to intervene before the patient escalates to the point of violence. The BVC was completed on every patient placed in a room in the ED over five months. The measured outcomes included Registered Nurse (RN) compliance with the tool, RN assaults, public safety officers (PSO) needing to lay hands on a patient versus standing by, and behavioral restraint usage. The results showed a 94.5% compliance rate with the tool, a decrease in RN assaults and PSOs laying hands on patients, and an increase in behavioral restraints.

Keywords: workplace violence in healthcare, Emergency Department, Broset Violence Checklist

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Section I. Introduction

According to the Occupational Safety and Health Administration (OSHA; 2019), workplace violence (WPV) is an act or threat of violence that occurs in the workplace ranging from verbal threats, harassment, and intimidation to physical assault or homicide. WPV is a significant concern for employers and employees, particularly in healthcare. The US Bureau of Labor and Statistics (USBLS; 2020) reports that healthcare workers (HCWs) are five times more likely to be injured in a violent workplace event when compared to others employed outside of healthcare. Additionally, one out of four registered nurses (RN) report being physically assaulted while on the job, and that is with only 20-60% of events reported (American Nurses Association [ANA], n.d.) There are likely many more events that occur without the organization's knowledge.

Background

WPV is an epidemic impacting healthcare organizations worldwide (Tadros & Kiefer, 2017). Victims involved may have an immediate sense of traumatization, shock, embarrassment, and a general decrease in well-being (Cabilan et al., 2020). HCWs may also experience long-term psychological effects such as post-traumatic stress disorder (PTSD), increased anxiety, low morale, self-medicating behavior, and depression (Cabilan & Johnston, 2019; Partridge & Affleck, 2018; Powell et al., 2022; Spelter et al., 2020). From an organizational perspective, WPV victims may have decreased productivity, increased absenteeism, decreased quality of care, increased turnover rate, and may leave the profession altogether, all impacting patient safety (Cabilan & Johnston, 2019; Spelten et al., 2020). Decreasing violence in the workplace is one of the objectives of *Healthy People 2030* (Office of Disease Prevention and Health Promotion [ODPHP], n.d.).

The National Institute of Safety and Health (NIOSH; 2020) defines four categories of WPV. Type one involves criminal intent. The perpetrator has no relationship with the victim or their place of business. For example, a doctor is mugged walking to the clinic. Type two violence involves a customer and client relationship, which includes patients, families, or visitors to the health system. An example would include a patient hitting a nurse. Type three involves co-worker violence and is often referred to as lateral violence. An example of this behavior includes a seasoned nurse speaking condescendingly or bullying a new graduate nurse. Type four is violence between people with a relationship spilling over into work. For example, a lab assistant's spouse follows the employee to work and attempts to harm that individual while on the job. Type two is the most common type of violence in healthcare and is the focus of this project (Wirth et al., 2021).

Organizational Needs Statement

HCWs in the Emergency Department (ED) are especially vulnerable to WPV, with the highest incidence of violence in healthcare occurring in this area (Mitra et al., 2018; Vrablik et al., 2020). Long wait times, the acute nature of the illness, increased stress levels from the patient and their families, lack of privacy, boarding or holding patients, and 24-hour availability to the public are all contributing factors (Aljohani et al., 2021; Powell et al., 2022; Spelter et al., 2020; Tadros & Kiefer, 2017). Many patients coming to the ED for treatment also have a history of drug and alcohol abuse, behavioral health conditions, and a previous history of violence. All these factors contribute to the likelihood of violence while caring for these patients (Aljohani et al., 2021).

The project partner is a 450-bed, non-profit community hospital primarily serving four counties in western North Carolina (NC). This hospital has a busy level III trauma center ED

with approximately 100,000 visits annually. Retaining members of the workforce, particularly nurses, is hugely challenging in the current market. Based on numbers provided by the Human Resources department, the partnering organization experienced a 6-8% staff turnover rate over the last year (A. Shull, personal communication June 24, 2022). Of that turnover, 27% of those employees were nurses. Additionally, more travel nurses have been used in the last two years than in the organization's history, with 47% of the vacancies filled with temporary staff. The ED has seen a turnover rate of 5% and 14% of temporary staff is used in the ED.

The organization has also seen a significant increase in WPV events over the last two years, with a 530% increase in events. From January 2022 to June 2022, 81 physical assaults were reported in the organization, and 63% led to an injury. The ED has seen a 130% increase in events, with 12% of the physical assaults leading to an injury. This phenomenon is not unique to the partnering organization. Partridge and Affleck (2017) surveyed ED staff across four hospitals in Australia about their experiences with WPV. They found that 88.1% of the clinical participants experienced verbal abuse over the last six months, with 42.7% experiencing physical assault.

One of the challenges with WPV is accurately quantifying the number of events and using data to benchmark. First, there is no standardized definition of WPV. Regulatory and government bodies define it differently, which leads to inconsistencies in the number of recorded events (Nikathil et al., 2017). Additionally, the literature is clear that staff grossly underreport WPV events. Some barriers to reporting events may include fear of retaliation, lack of time, perceived complex reporting systems, and staff acceptance that being assaulted is part of the job (Ayasreh & Hayajneh, 2021; Davids et al., 2021; Nikathil et al., 2017). Therefore, it is challenging to benchmark WPV event data nationally or with other organizations. The National

Database of Nursing Quality Indicators (NDNQI) recently began collecting quality indicator data for WPV. However, the partnering organization is not a member and does not have access to this data.

Another challenge is the proactive identification of patients that may become violent. The partnering organization has instituted many mitigation strategies, including adding signage that shows their zero tolerance for violence at primary entrance points to communicate this stance to patients and visitors. Staff were issued panic buttons, and additional PSOs were assigned to the ED. The partnering organization is adding metal detectors at ED entrances and providing certain PSOs with Tasers. However, none of these mitigation strategies help proactively identify patients with a violent propensity. The mentality toward this topic must shift from management to prevention (Senz et al., 2021). The partnering organization recognizes the value of proactively addressing this problem to protect the staff and patients and the need for a tool to predict objectively. This proactive approach will allow for early intervention, which may increase patient and family satisfaction and staff safety by decreasing the number of violent acts (Senz et al., 2021). Staff satisfaction should improve, increasing staff retention and enhancing the quality of care and safety. All these things impact the organization's bottom line and the overall patient experience, addressing the Institute for Healthcare Improvement's (IHI) quadruple aim.

Problem Statement

Over the past two years, there has been an increase in workplace violence in healthcare organizations globally. ED staff is particularly vulnerable because of the dynamic work environment. In a systemic review and meta-analysis, Mitra et al. (2018) noted that 36 violent episodes occur per 10,000 visits to the ED. Nurses experiencing a workplace violence event are more likely to be absent from work, suffer from anxiety and depression, or leave the profession

altogether (Partridge & Affleck, 2018). According to the ANA (n.d.), 13% of RN absences are related to WPV events. Powell et al. (2022) held 60-minute interviews with nurses who were victims of WPV in the ED. Within an average of four minutes of starting these interviews, participants were crying as the victim talked through the details of the situation, regardless of how much time had passed since the event occurred. For the well-being of ED staff, extreme nursing shortage, and patient safety, organizations must focus on decreasing violence in EDs.

Beginning in January 2022, The Joint Commission (TJC; 2021) issued new standards to address WPV. This group provides a 55-page compendium of resources on identifying organizational risk and mitigation strategies and creating a WPV prevention plan, including policies and training. However, after reviewing the compendium, no tools are recommended for use at the patient level to determine which patients have a higher risk for violence (TJC, 2021).

The recommendation is for a validated tool to identify patients that may become violent proactively. The tool provides a structured assessment of the patient's violence risk versus an "unstructured clinical judgment" approach (Senz et al., 2021, p.666). Violence assessment tools have been used for many years in behavioral health settings (Partridge & Affleck, 2018). Therefore, numerous predictive tools have been validated for inpatient use; however, only a few have been validated for use in the ED Simplicity is critical for the dynamic and fast-paced ED environment (Senz et al., 2021). The tool must be quick, accurate, easy to use, and available in the electronic health record (EHR).

Purpose Statement

This project aims to implement a tool to proactively identify patients in the ED at high risk for violence. The tool allows staff to take appropriate safety precautions and quickly intervene before the patient escalates or exhibits violence (Cabilan & Johnston, 2019). Utilizing

a predictive tool to assess all patients coming into the ED for treatment will decrease the number of violent acts, the number of injuries to staff, the number of hands-on interventions required by public safety officers (PSO), and the use of behavioral restraints.

Section II. Evidence

Literature Review

The Lapus Health Sciences Library at East Carolina University (ECU) was used to search for literature supporting this project. Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PubMed were the two databases primarily searched using Medical Subject Heading terms "violence," "emergency department," and "tool." The Boolean operator "AND" was used to ensure literature contained these three defined topics. Although the search was limited to peer-reviewed articles published within the last five years, 2017-2022, over 150 articles were retrieved using this search. The evidence was narrowed to seven articles using the inclusion criteria of violence in the workplace, the location of the ED, and the use of a tool to predict violence. After thoroughly reviewing seven articles, three studies featuring the Broset Violence Checklist (BVC) were selected and used to guide this project. See Appendix A for the detailed literature matrix.

Current State of Knowledge

The literature is saturated with defining and quantifying the WPV phenomena. However, more research is needed to proactively address the problem (Spelten et al., 2020). Much of what is supported by the literature is primarily for inpatient behavioral health units and is not specific to the ED (Partridge & Affleck, 2018; Ghosh et al., 2019). Therefore, there is no recommendation, standard process, best practice, or preferred tool for identifying these patients with a propensity for violence in the ED.

Ghosh et al. (2019) published a literature review examining the validity and utility of violence risk assessment tools used outside the behavioral health space. Ghosh et al. reviewed five studies that used tools in the acute care setting, two of which may be helpful in the ED due to their solid predictive ability and ease and quick use for nurses. These tools are the BVC and the Dynamic Appraisal of Situational Aggression (DASA). Both tools are commonly used in the behavioral health inpatient units, with some research on use in the ED.

Conner et al. (2020) completed a study looking at the DASA in the ED for violence prediction. This tool was used historically in the behavioral health inpatient setting and showed DASA scores correlated with increased violence and aggression. More studies are needed to determine if the use of this tool decreases violence in the ED.

Cabilan and Johnston (2019) wrote a comprehensive review of risk assessment tools used in the ED. This review included the BVC, Staring and eye contact, Tone, and volume of voice, Anxiety, Mumbling and Pacing (STAMP) tool, and an extension of the STAMP tool that includes emotions, disease process, assertive/non-assertive behaviors (STAMEDAR), 17-cue violent assessment tool, and the Violence Risk, Screen, Decision Support in triage (VRSDSiT) tool. All the tools, except for the BVC, are intended as a visual aid to staff versus an objective tool used to determine patients at high risk for violence.

Another study by Kim et al. (2022) examined the Aggressive Behavior Risk Assessment Tool (ABRAT). Kim et al. were the first to examine this instrument in the ED, involving>10,000 patients. This study used the 16-item ABRAT, which includes six more items than the ABRAT used in other areas. These additional items included a history of substance abuse, mental illness, and other behaviors related to intoxication or drug use. The ABRAT study confirmed high sensitivity and specificity for identifying patients at high risk for violence and was noted to be

simple and comprehensive. However, the prevalence of violence in this study population was very low, perhaps due to the short length of stay in the ED, from 4.6 to 2.4 hours. While the study noted that nurses did not find the tool burdensome, to utilize the EHR, there may be a considerable software build that must occur to link chief complaint and past medical history information to the tool. Adding these elements to the EHR would keep nurses from searching for this information when completing the tool, impacting adherence.

Partridge and Affleck (2018) and Senz et al. (2021) performed studies in the ED utilizing the BVC. The BVC is a six-item tool that measures three characteristics and behaviors that can be quickly and easily assessed. Both studies cited positive results with the use of this tool.

Partridge and Affleck (2018) were the first to show that the BVC had good utility in an ED setting. The novel study demonstrated that half of the ED patients that scored "high risk" on the BVC committed violent acts, and violent patients were 70 times more likely to score as high risk than non-violent patients. This study was unique because security officers scored the patients on the BVC in triage.

Senz et al. (2021) was the first study to implement the BVC into the ED system. This group utilized the BVC with interventions to treat the patient and measured staff confidence before and after implementing the tool. There was a statistically significant improvement in confidence with risk screening. Additionally, there was an improvement in opinions and perceptions around organizational support for WPV. This study also showed increased risk assessment documentation based on a pre and post-point prevalence study. Finally, Senz et al. also found a decrease in emergent events that required security intervention with a statistically significant increase in planned security standby.

Lastly, Cabilan et al. (2022) published a study intending to test a novel three-item WPV risk assessment tool specific to the ED. This instrument is the Queensland Occupational Violence Patient Risk Assessment Tool (QOVPRAO) and measures the presence of three risk domains, including behaviors of concern, clinical concerns, and aggression history. This study confirmed the validity and demonstrated acceptable predictability based on retrospective chart reviews. This instrument has not been used with patients.

Current Approaches to Solving Population Problem(s)

Due to the busyness and chaotic nature of the partnering organization's ED, the selected tool must be quick and easy to use, can be coordinated into the current workflow, and not cause patient care delays. Additionally, the tool should be linked to patient management interventions to assist with developing buy-in from the staff (Cabilan et al., 2020).

Several studies utilized the BVC in the E.D. Partridge and Affleck (2018) used the BVC in the ED in a novel study where security officers completed the BVC. Partridge and Affleck showed that half the patients who scored "high risk" on the BVC acted out violently. Additionally, violent patients were 70 times more likely to score high on the BVC than non-violent patients. This study also confirmed the specificity, sensitivity, and predictive value in the ED.

Senz et al. (2021) used the BVC with a "behaviors of concern" management matrix. Patient scores on the BVC lead to intervention recommendations specific to nursing, providers, and security. Senz et al. showed decreased emergent security calls in the ED versus planned calls. Additionally, the tool showed increased staff feeling supported by leadership around WPV and increased knowledge of behaviors that may lead to violence.

Evidence to Support the Intervention

In collaboration with the partnering organization, it was determined that the BVC was the most appropriate tool for the busy, dynamic environment of the ED. The BVC is the most studied violence predictive tool, even though much of this research occurred outside the ED (Ghosh et al., 2019). Additionally, Cabilan et al. (2022) noted that for nurses to deem a tool to be clinically useful, it should be "comprehensive, brief, and objective" (p. 1178.) The BVC (see Appendix B) is a six-question tool used to identify patients at risk for violence.

Almvik et al. (2000) initially confirmed the sensitivity and specificity of determining patients that will likely be violent versus those that will not be in 24 hours on an inpatient psychiatric unit. The BVC assesses "confusion, irritability, boisterousness, physical threats, verbal threats, and attacks on objects" (Ghosh et al., 2019, p. 1261). Patients are given a score of one to six based on the presence or absence of the behavior. One is given if present, and zero is assigned if the behavior is lacking. The scores in the six categories are added together, and the sum determines the patient's risk level for violence. According to Partridge and Affleck (2018), this tool has good sensitivity, specificity, and predictive value when determining which patients have a higher propensity toward violence in the ED. This tool can quickly be built into the electronic medical record (EMR), with interventions linked to the score. Many other organizations utilize the BVC and have this build already in the EMR; implementing from this perspective is straightforward. This tool can be used practically on all patients, which decreases biases that may occur when singling out certain groups of the population and focuses more on individual behaviors allowing for intervention and mitigation based on that patient's need (Senz et al., 2021).

Evidence-based Practice Framework

Irvine et al. (1998) developed the Nursing Role Effectiveness Model (NREM). This model is based on the Donabedian model of quality care (Donabedian, 2005). Compared to the Donabedian model, the NREM includes more variables and nursing components, allowing for visualization of the contributions nursing makes to patient outcomes (Irvine et al., 1998; Lukewich et al., 2019). The NREM looks at the nurses' role and the impact this role has on patient and cost outcomes via three components: structure, process, and outcomes (Irvine et al., 1998). The structure component looks at three variables, including the patient, nurse, and organization, by analyzing each impact on the outcome. Examples include demographics or diagnosis type of patients, nursing experience and skill level, and organizational resources such as staffing mix (Lukewich et al., 2019). The process component assesses the nurse's impact in three ways: independent, medical care-dependent, and interdependent. The independent domain consists of expected duties, tasks, and nursing interventions that the nurse may do without a provider order. The dependent domain requires a provider order, such as medication administration. The interdependent domain includes activities associated with other healthcare providers (HCPs), which may include team communication. Lastly, the outcomes component looks at the nursing impact on outcomes by considering the structure and process components.

The NREM was used to conceptualize this project. The structure of the project involves all patients roomed in the ED, regardless of diagnosis, and all nurses involved in the primary care of ED patients. From an organizational perspective, anyone entering the room or encountering an ED patient may be impacted. The busy ED and staffing challenges also impact the project's structure. Nursing is a primary stakeholder in this project. The potential additional benefits of this project, but not measured, include staff satisfaction, patient satisfaction, and decreased costs related to staff injury or patient injury.

Ethical Consideration & Protection of Human Subjects

Some patients are at higher risk for violence due to having violence in their history. Nikathil et al. (2017) indicate that drugs and alcohol contribute significantly to violent behavior. In addition, patients with a behavioral health diagnosis have a higher risk for violence (Wirth et al., 2021). However, due to the stressful environment of the ED, all patients have the potential for violence, and often, those patients that staff is least suspecting to be violent can cause the most harm. Therefore, nurses must complete the BVC on all patients, regardless of their diagnosis, to decrease bias.

Following the policy of the partnering facility, this project was submitted to the Institutional Review Board (IRB) on September 22, 2023, to confirm and document that this is a performance improvement project. Collaborative Institutional Training Initiative (CITI) modules were completed as required by ECU and the partnering organization to assist with understanding the rights of human subjects and ensure those rights are observed. The partnering organization's IRB approved this project on September 29, 2022 (see Appendix C), as project improvement, not research, and was exempt from full board review. This project was also placed through the ECU IRB digitally. Approval was granted on November 16, 2022 (see Appendix D).

Section III. Project Design

Description of the Setting

The project's setting was a community healthcare system centered around a 450-bed hospital. The ED is a busy level III trauma center, serving four counties in western North Carolina with approximately 10,000 patient visits annually and an average of 200-215 patient visits daily (J. Cook, personal communication, October 20, 2022). There are 54 patient beds,

including four trauma bays, a pediatric treatment area, and adult and pediatric behavioral health treatment areas.

Description of the Population

The primary population for this project was the nursing staff in the ED. This population administered the tool and responded to the results by following recommended interventions defined by the organization. The nurses should directly benefit from this tool by identifying the patients at the highest risk for violence, allowing for early intervention to keep the patient from reaching the point of violence and potentially injuring the nurse. Additionally, the project population includes PSOs. These officers respond to calls from the nurses when patients are escalating or often when patients have begun to act out violently. Using an objective tool to identify patients at a higher risk of violence will impact their day-to-day role in the ED. Finally, all members of the workforce in the ED with patient interactions are included in this project population because each person has a risk of harm from violence. For this project, only injury numbers were collected on nurses; however, early intervention should impact providers, radiology team members, and anyone else with direct patient interaction.

Historically at this organization, the ED has had very seasoned nurses; however, as with other areas in the hospital, the ED is currently challenged with having the appropriate staffing to meet the patient demands, whether that includes the volume of actual patients, acuity, or both. Nurses and nurse assistants have left the ED for many reasons, requiring the organization to employ temporary staff and hire less experienced nurses to care for patients in a fast-paced, stressful environment. Having staff with less experience could pose a barrier to the project. While providing adequate patient care, temporary staff often must be more invested in organizational improvement (Bajorek & Guest, 2019). Another identified barrier was the

additional workload for nurses. Completing the tool is another piece of documentation for an already busy, stretched nurse. However, in contrast, because of the frequent violent events, the workforce is hypersensitive to the potential for violence, and the desire of the team for proactive approaches to prevent violence is present. The Senior Leadership team (SLT) also focused on WPV prevention and increased awareness of measures to decrease violence. Having SLT support helped facilitate team buy-in and implementation of the project.

Project Team

The project team consisted of a multidisciplinary group. The project manager is a nurse and former senior director of patient safety with five years of experience specifically focused on patient safety and two years with an additional focus on workforce safety. Another key team member includes a Clinical Informatics Nurse Specialist who previously worked in the ED and understood the ED flow and dynamic work environment well. The nurse specialist supports the building of the EHR. The Director of the ED is another vital member of the project team. This individual is passionate about the safety of the ED workforce and has 20-plus years of working in the ED setting. The Director of Public Safety is another essential member of the project team. PSOs are positioned in the ED to assist with escalating patients, and having the Public Safety Director's input is vital to a successful project. Finally, the organization's Director of Risk Management is a project team member. The Risk Management Director aids the team in appropriately managing risks the project may pose. Additionally, risk management participation was essential for the success of this project because workforce safety falls under the risk management area of responsibility.

Project Goals and Outcome Measures

The project goal was to decrease violent events in the ED that may lead to staff harm by utilizing the BVC to proactively identify patients at higher risk for violence, allowing for early intervention and decreasing the risk of escalation to the point of violence. Numerous data points were selected to measure the outcome of this project. The measures included the number of nurse injuries related to WPV, the number of events requiring PSO intervention, behavioral restraint usage, and nurse adherence to the utilization of the tool.

Description of the Methods and Measurement

All data collected were placed on a shared Excel spreadsheet (see Appendix E). Nurse injuries were identified via the RL Datix Safety Event Reporting System. Reports were run from this system monthly during project implementation. Additionally, data were obtained from the Employee Health (EH) department of the partnering organization for staff members that required follow-up by the EH team. The EH team extracts the data from the Sysdoc system, the EHR for EH. These WPV injuries were categorized using the NDNQI assault on nursing personnel indicators. Based on these indicators, the injuries were assigned as none, minor, moderate, or major. See Appendix F for specifics about injury definitions. Organizational benchmark data are for January 1, 2022-May 31, 2022; twelve physical assaults were reported in the ED, necessitating follow-up in EH. Three RNs accounted for 25% of all assaults, and 33% resulted in minor injuries. The goal for this outcome was zero physical assault on RN and zero injuries.

The number of times a PSO was called and placed hands on a patient versus being called to stand by was measured. Staff often request a standby PSO when medicating a patient that has previously been violent or is starting to show signs of aggression so the PSO can quickly intervene. When PSOs are called emergently to place hands on a patient, that patient may not have been identified at risk for violence early and intervened upon before things became violent.

Hands-on data was recorded in the RL Datix Safety Event reporting system. Additionally, all calls are recorded in the Computer Aided Dispatch (CAD) System. PSOs record more specific details around events in the CAD system, which the Public Safety Department only uses to record department calls that require a dispatch function. This detail assisted in determining the level of involvement required by the PSO. The organizational benchmark is 1.0 per 1000 ED visits required the PSO to put their hands on the patient. This project aims to decrease hands-on by 5% to 0.95 per 1000 ED visits.

Another measured outcome was the use of violent restraints. Per the Centers for Medicare and Medicaid Services (CMS), a violent restraint is appropriate if the physical safety of the patient, staff, or others is jeopardized (2006). When potentially violent patients are identified early and interventions are taken, then the use of behavioral restraints should decrease. All patients placed in restraints are reviewed and entered into the Joint Commission International AMP® audit system. AMP® s is a web-based platform that allows data collection and organization to assist with TJC accreditation readiness (Joint Commission International, n.d.). The organizational benchmark is 1.14 violent restraints per 1000 ED visits. The goal was to decrease the benchmark by 5% to 1.083%.

Lastly, adherence to the BVC was measured. Since the BVC was new, there was no baseline data for comparison. The goal was for all patients (100%) to have the BVC completed once per ED visit. The nurse should complete the BVC after placing the patient in a room. Patients triaged but left before being placed in a room did not count towards this adherence number.

Implementation Plan

Before implementation began, meeting with the key stakeholders was essential to confirm organizational buy-in and support. One of these stakeholders included the information technology (IT) team responsible for the Epic build. Before knowing which direction to take with the project, confirmation that this tool could be built in Epic was essential and ensuring the build could be done within the project timeline. In addition, multiple meetings were had with the Chief Information Officer (CIO) and Chief Nursing Officer (CNO) to confirm organizational support for the project. The BVC required the purchase of a license to allow its use in the EMR. Since WPV is a top priority for the Senior Leadership team, the participating organization was willing to pay for this license and support the project. Multiple meetings were held before the start of implementation to ensure IT readiness.

Another step before implementation was determining what interventions should be linked to BVC scores. Based on RN feedback, Cabilan et al. (2020) suggested that for a tool that assesses a patient's violence level to be helpful, it needs associated interventions for the RN to use. However, minimal literature supported specific interventions to assist with patient scores. The project team used interventions adapted from Senz et al. (2021; see Appendix G). Since there was limited literature to support the interventions, the team opted to make the interventions recommendations to the nurses versus requirements. These interventions were monitored and adjusted to meet the needs of the patients, staff, and physician recommendations.

The first step before implementation was to educate all RNs in the ED. Initially, the team planned to use computer-based learning modules to educate the team; however, when the team began developing the education, the team discovered the participating organization was changing software and not allowing the development of new CBLs. The team regrouped and determined that one-on-one education would be the best way to educate the end users. ED managers,

assistant managers, directors, and educators attended a virtual training led by the Project Leader on December 1, 2022. The training included how to approach staff and train for the BVC. This training included explaining the BVC, its importance, and how to use it. The intent was for all ED staff members to understand the rationale behind the project and how it impacted them. Staff training began on December 5, 2022, two weeks before the BVC would be available in the EHR. Rosters were tracked to ensure all RNs received training. On December 20, 2022, the BVC was available for use. Project team members were available in the ED to work at the nurses' elbow to ensure they understood how to use and document the BVC. Additionally, for the next two weeks, the BVC and its impact were presented at ED huddles held thrice daily. These huddle reminders and updates were another way to ensure that staff understood the expectation and had plenty of time to ask questions about the BVC.

Timeline

Stakeholder conversations began on May 31, 2022. These stakeholders included the Director of ED, Director of Public Safety, Epic team, CNO, CIO, and the Patient Safety Officer. Two meetings, one on October 4 and one on November 14, 2022, were held with ED leadership to develop and finalize the education plan. Additionally, monthly meetings were held with ED leadership and the Epic team from August through December to ensure timely development and implementation. Project education began on December 1, 2022, with the ED managers, director, and educator. Staff training began on December 5 and continued through December 19, 2022. The BVC was available in EHR on December 20, 2022. Members of the Project Team were available at staff huddles to remind staff of the importance of completing the BVC and helping staff understand the "why" behind the project from December 20, 2022, through January 3, 2023.

The data collection period was five months, from January 1 – May 31, 2023. The project ended on May 31, 2023. See Appendix H for a detailed timeline.

Section IV. Results and Findings

Discussion of Major Findings

Four outcomes were measured for this project, including the number of nurse injuries, level of PSO intervention, behavioral restraint usage, and compliance with completing the BVC on all patients ≥ 18 years old who were roomed in the ED from January 1-May 31, 2023. Each of these individual outcomes examined project implementation in a slightly different way. Each intervention impacted different groups, such as the clinical team, the public safety team, and patients, with all the outcomes impacting the healthcare system.

Nurse Injury Outcome

One of the primary outcomes of the project was to analyze nurse injury data. This data was collected using the organization's safety event reporting system data and injury reports from EH. The data concluded that 25% (n =3) of the assaults in the ED (n=12) from January-May in 2022 were against nurses. For 2023, there was a 16.66% (n=14) increase in total events that required EH intervention from ED staff, with 21.42% (n = 3) of events involving a nurse. The number of nurse assaults was a 14% decrease. The injuries to the RNs were all minor injuries per the NDNQI Assaults on Personnel Indicator chart. Therefore, nurse injuries decreased, but the goal of having zero injuries was not met.

PSO Intervention

Another measured outcome examined the number of times a PSO was called to a patient's room to standby in case the PSO was needed for intervention versus when the PSO had to actually "place hands" on the patient or intervene. The goal was for the number of standby calls

to increase and for the number of times that required physical intervention to decrease. This project aimed to decrease the need for physical intervention by 5%, which would be 0.95 per 1000 ED visits requiring a hands-on PSO intervention. This goal was met with 0.87 per 1000 ED visits requiring hands-on from a PSO, which is a 13% reduction.

Behavioral Restraints Usage

One outcome that directly affected the patient was the number of behavioral restraints used during the data collection period. The goal was to decrease the usage of these restraints by 5%, which would be 1.083 per 1000 ED visits. This goal was unmet because the number of behavioral restraints used increased to 1.35 per 1000 ED visits, an 18.42% increase.

BVC Adherence

For the project to have any impact, the BVC had to be completed on patients ≥ 18 years old and placed in a room in the ED. The compliance goal to meet this outcome was 100%. The goal was unmet because the BVC was completed on 31,967 out of 33,855 patients roomed in the ED, which equates to 94.4%. However, this number reflects consistent usage of the tool on most patients and buy-in from the clinical staff.

The sum of the BVC is an indicator of potential violence. A sum of 1-2 suggests the risk of violence is moderate and preventive measures should be taken. For a sum >2, the risk of violence is very high. Preventive measures should be taken. In addition, a plan should be developed to manage the potential violence. A small number of patients fell into this category, with 2.64% (n = 845) having a sum of 1-2 and 0.35% (n = 113) with a sum ≥ 3 (Woods & Almvik, 2002).

Section V. Interpretation and Implications

Costs and Resource Management

Overall, the actual expense of this project was low, with the price of the license to use the BVC tool for three years being the only actual expenditure. The cost for the licensure was $4,298. However, there was a significant number of human resources used. The project manager spent numerous hours researching the best tool for the organization based on the literature, getting feedback on the proposed tool from staff and leaders, and then working with the EPIC team to ensure an understanding of the purpose and intent of the tool and to confirm the tool could be built in the EMR. Two members of the EPIC team worked on building and testing the tool before implementation, which also included troubleshooting. Different members of the IT department created a unique report so appropriate data could be collected to measure compliance. Because the CBL system was being upgraded then, the staff needed education on the tool; therefore, the ED manager and assistant manager had to educate the frontline RNs. One-on-one training added significantly more human resources than needed if a CBL had been used. If this project were rolled out on a larger scale, a computer-based training platform would significantly decrease the time required for RN leadership to train staff.

Justification for this cost for implementation of the BVC can be easily made. According to Van Den Bos et al. (2017), in a report created for the American Hospital Association to explain and define the cost of WPV, this group

> estimated that proactive and reactive violence response efforts cost US hospitals and health systems approximately $2.7 billion in 2016. This includes $280 million related to preparedness and prevention to address community violence, $852 million in unreimbursed medical care for victims of violence, $1.1 billion in security and training costs to prevent violence within hospitals, and an additional $429 million in medical care,

> staffing, indemnity, and other costs as a result of violence against hospital employees (p.2).

While this cumulative number represents the nation, it is impressive. Breaking the number down further to an organizational level shows that the benefit of implementing the BVC outweighs the cost required to do so. Putting a cost on a nurse's injury is more complex. However, Sun et al. (2019) categorized WPV injury costs in three ways, first by looking at the victim's direct costs, which include primary and more extended healthcare required for physical recovery from the injury. When an employee is injured at work, the organization typically absorbs this through worker's compensation. The second category looked at the situation from an opportunity cost perspective, which includes loss of productivity, time away from work, and salary loss. According to Indeed (n.d.), the average salary of an RN is $41/hour; if a nurse needs to be out due to an injury, then temporary staff may be needed to replace that individual, therefore, increasing cost. The cost of the RN being out of work impacts the individual and the organization.

Finally, looking at nonmonetary loss, which includes pain and suffering, can impact someone's ability to work. When considering the cumulative cost of one injury to a healthcare worker, the BVC quickly pays for itself if the tool can identify one patient at risk for violence and intervene before the patient reaches the point of escalation to violence. Early identification of patients at risk for violence impacts the patient, the organization, and the individual who may have suffered from the event.

Implications of the Findings

Implications for Patients

Implementing the BVC to identify patients at risk for violence proactively had positive implications for multiple stakeholder groups, including patients, clinical staff, and the healthcare system. Using behavioral restraints was the patient outcome that directly measured the tool's impact on patients. For this project, the number of behavioral restraints used during the measured time increased. While this cannot be directly attributed to using the BVC because no associated intervention called for restraint, it likely contributed to increased staff awareness of patients at risk for violence and more timely intervention. Decreasing restraint use is a satisfier for patients because being in restraints can make patients feel isolated, stigmatized, and bullied by healthcare staff (Al-Maraira & Hayajneh, 2019). Therefore, this outcome was unexpected and undesired. However, after discussing with the Steering team, it was felt by ED leadership that the actual time, in hours or minutes, that patients were restrained was lower than prior to using the BVC. There was no data to support this theory, and it needs further exploration.

Regarding positive implications for patients, decreasing outbursts and violent behavior is a satisfier for other patients in the ED who are seeking care and witnessing the outbursts adding to the stress these patients are already feeling. A less chaotic environment is soothing to the patients and makes for a more conducive work environment for staff not distracted by violence.

Additionally, in 2015 North Carolina passed a state law that it is a felony to assault a healthcare worker attempting to provide care to a patient in the hospital (H.B. 560, 2015). If a nurse intervenes proactively before a patient escalates to the point of violence, that intervention could keep the patient from committing a felony, which could be life-altering for a patient. Avoiding a felony would be highly favorable for the patient.

Implications for Nursing Practice

Based on feedback from nursing leaders in the ED, the RNs appreciated the BVC implementation. The RNs felt the participating organization's leadership heard their safety concerns. Feeling heard is not only a win for the nursing team but also for the healthcare system. WPV can lead to an increase in absenteeism and turnover, so decreasing this through early identification and intervention of potentially violent patients can positively impact staffing and experienced RNs remaining on the front lines. Feeling heard also increases the RN's trust in organizational leadership.

Another nursing practice implication is retention. The participating organization is focused on retention. Currently, recruitment and retention of RNs is a challenge. RNs are scarce; anything the organization can do to contribute to RN retention is important and directly impacts patient care. Since the BVC is a tool provided to the clinical team that potentially decreases injuries to the staff, including RNs, this can contribute to decreased stress at work and improved well-being of the RNs. Both these factors contribute to retention.

Implications for Healthcare System

With nurses being a challenge to recruit, organizations have had to turn to temporary staff as travel nurses to feel the staffing gaps. According to Advisory Board (2023, March 18), travel nurses incur a cost to an organization at least double what is paid to a staff nurse. If using the BVC impacts the retention of several nurses, then this has a substantial organizational impact on cost savings. These cost savings do not reflect the importance of retaining staff familiar with the organization, the patient population, and ED policies and procedures. Staff familiarization also impacts patient safety and quality, impacting reimbursement from the CMS (Senz et al., 2021).

Hospitals also risk reputational harm if events occur on campus. Frequent WPV events may suggest that the organization needs to provide safeguards to protect the team members.

Since nurses are in such high demand, RNs have many choices of where to work. Managing the organizational reputation as a safe workplace is vital to recruiting this scarce resource and instilling community trust.

Sustainability

The key to sustainability for this project is leadership support, particularly in the ED. The ED leadership team has been involved throughout the project, and most of the leaders serve as steering team members. With the support of the leaders, this project can sustain its progress and propel even further forward. This project was handed off to the ED team and the sponsoring organization's WPV Committee.

Dissemination Plan

Continuing to increase awareness of WPV prevention measures is essential. The results of this study were shared with the appropriate stakeholders and groups. First, the project results were shared throughout the organization so those who participated could recognize the value of their contribution to the project. The results were shared with the Acute Care Service Line, which includes ED leadership, such as the vice president of patient services and the service line, nursing, and medical directors of the ED. The results and project work were also shared with the organizational WPV committee. The poster was displayed in the ED break room and the Public Safety Office and reviewed during department huddles in these two areas to ensure frontline staff was aware of the project results. Finally, the Vice President of Medical Affairs and the Patient Safety Officer asked the steering team to present the project and outcomes to the organization’s Board of Directors in August.

The project was presented to the East Carolina University (ECU) DNP approval committee on July 11, 2023, and submitted to Scholarship, which is ECU's database. The project

abstract has also been accepted for a poster presentation at the upcoming North Carolina Nursing Association (NCN) Annual Convention scheduled for September 14-15, 2023, in Winston-Salem, North Carolina. Finally, the plan is to submit for publication to the Journal of Emergency Nursing due to the journal's focus on the WPV.

Section VI. Conclusion

Limitations and Facilitators

One of the data collection points depended on staff submitting safety event reports detailing what occurred and the severity of those events. This data relied on staff to report through the incident reporting system. Historically WPV events are underreported for multiple reasons the study did not address, such as busy nurses as well as feeling like WPV is part of the job and not worth reporting (Ayasreh & Hayajneh, 2021; Davids et al., 2021; Nikathil et al., 2017). Therefore, there were likely more events that occurred than were reported.

Another limitation included the turnover of the CNO during project implementation. Initially, the CNO strongly supported the project but left unexpectedly. The interim team was supportive; however, it took time to educate the new members and obtain the same level of support the project had previously from an organizational nursing perspective.

As the team was implementing the project, there was much discussion about when the BVC should be completed again after the initial presentation. One of the gaps in the literature was around the frequency of completing the BVC. Initially, the Steering Team determined that the patients would be in the ED briefly, so completing the BVC when roomed seemed reasonable. Unfortunately, hold times increased with the need for inpatient beds and lack of availability, so the need to repeat the BVC could have potentially impacted the successful

implementation of the project. For this project, the BVC was completed once when patients were roomed.

In reviewing the collected data around PSO standby versus intervention, one limitation for the outcome data centered around the routine work of the PSO. A portable metal detector or wand must scan every patient with a lack of capacity ordered in the ED. The scan occurs when patients are roomed for the safety of the patient and the staff. These routine searches were counted as part of the PSO standby data, which should have been excluded. Instead, these routine standby calls were counted in the outcomes data.

The key to the success of this project was the support of the ED and Senior Leadership teams, including the Chief Information Officer. WPV has been an organizational focus for several years, and the timing of the implementation of the BVC was perfect. The ED fully supported the efforts to have a predictive tool to help keep the staff safe and communicate that support throughout the frontline staff. This support and communication helped the staff recognize that this tool and effort was being put in place for one reason which was their safety.

Additionally, the CIO supported adding the tool to the EMR. CIO support included allowing the IT staff to build and test the tool, removing them from other critical organizational projects, and funding the license fee to use the BVC out of the informatics budget. This support shows the value the organization places on the safety of the employees. Selecting a validated tool and one that other EPIC organizations were willing to share the build information also facilitated implementation.

Recommendations for Others

One of the primary facilitators for this project was the support from a senior leadership perspective and the ED leadership team. The leaders saw the tool's value and the use of a

proactive approach. There was also support from the IT team. The IT team is busy creating numerous builds in the EMR per regulatory requirements and organizational needs and installing upgrades. However, the IT team saw the importance of this project and made it a priority. Pursuing this project requires IT support and effort to succeed. Not having the IT teams' support could hinder implementation with many competing priorities.

Another recommendation to consider is starting on a small scale. Although the ED is not typically considered a controlled environment, in this situation, it was. The ED performed the BVC on thousands of patients over the five-month data collection period. The number of nurses performing the assessment was controlled since no other nurses outside the ED were using the tool. The education of the ED nurses and compliance with tool usage could be monitored closely.

One final recommendation is to ensure there is funding to support the licensing tool. While the cost is minimal compared to organizational budgets, this licensing fee must be paid to implement the tool. Showing those controlling and managing the budget, the return on investment of this tool could help ensure its funding before implementation.

Recommendations Further Study

The recommendation is to roll out to other hospital areas outside the ED because patients are becoming increasingly violent throughout the organization, not only in high-risk areas such as the ED or behavioral health. When the idea for this project was presented to the Nurse Administrative Council, nurse leaders in other areas asked when it could be implemented. There is a gap in the literature supporting use of the BVC outside the Behavioral Health and the ED areas. Therefore, it should be an area explored to provide nurses in other areas the same level of support by predicting the potential for violence throughout the organization.

Additionally, it was noted through data collection that patients under 18, particularly in the adolescent range, which were excluded from this project, represented numerous violent patients in the ED. After consulting with the team that developed the BVC, the tool can be used for patients of any age if the patient is able to display the behaviors assessed by the BVC; however, the literature reviewed for this project needed to be clarified on its use in this age range. (R. Ruiken, personal communication, April 8, 2023). Therefore, the recommendation would be to search the literature further for use in the population <18 years of age. If studies are found, implement this tool on the pediatric and adolescent population and perform additional studies.

Another area of additional research includes associated interventions with the BVC sums. The interventions used in this project were adapted from another study. However, of all the literature reviewed for this project, this was the only article noted that included interventions that addressed the BVC sum. For the clinical staff to see the tool's value, particularly in the ED, interventions should be associated with it. Otherwise, it is just another box that needs to be checked in the EMR (Cabilan et al., 2020). Therefore, additional research is needed to support the usage and support best practices.

RNs were the only team members allowed to complete the BVC for this project. However, since the BVC involves looking at patient behaviors and documenting them, a nurse's assistant or PSO may be able to complete the tool. RNs have so many tasks that the option of others completing them is worth exploring.

One final recommendation for further study is the frequency of repeating the BVC. The literature was clear on when to repeat the test for inpatient behavioral health patients, but patients tend to stay longer in this setting. However, there needed to be more information on the

frequency of the BVC for patients in a temporary location such as the ED. Ideally, patients move quickly through the ED, and further research would help guide leaders on when to repeat the BVC and how best to use the BVC data in this dynamic setting.

Final Thoughts

WPV continues to be a worldwide epidemic, with the highest rates of violence in the ED. With the increased rate of violence combined with the high nursing shortage, there has never been a more critical time to ensure the safety of frontline nursing staff. Investing in a tool to proactively identify patients at high risk for violence is a small price to pay for what could impact an ED's ability to operate safely and efficiently to care for patients. This tool takes very little time for the RN to complete but could have significant safety implications if used according to protocol. There is much more to do to combat the epidemic of workplace violence, but one step at a time, nurses can feel safer in the workplace, and patients can get the interventions needed to manage their potential for escalation.

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Appendix A

Literature Matrix

Authors	Year Pub	Article Title	Theory	Journal	Purpose and take home message	Design/Analysis/ Level of evidence	IV DV or Thimic concepts and definitions	Instr. Used	Sample Size	Sample method	Subject Charac.	Comments/critique of the article/methods GAPS
Burgess (made up)	2018	Factors related to nursing students thriving in doctoral education	Theory of self-efficacy	*Journal of Education*	To determine if self-esteem and self-efficacy contribute to thriving in doctoral education	Level II-4 (See below) Description Inferential	IV Self-efficacy & Self-esteem DV thriving	Rosenberg self-esteem scale	100	Interviewed students at 3 universities	African-American 10%; Caucasian 85% and other 8%	The authors found that... They did not include information on doctoral students who did not persist/thrive Limitations: Implications: Synthesis:
Partridge, B. & Affleck, J.	2018	Predicting aggressive patient behaviour in a hospital emergency department: An empirical study of security officers using the Broset Violence Checklist	N/A	*Australian Emergency Care*	Evaluate the statistical utility of the Broset Violence Checklist (BVC) when administered by a designated hospital security officer	Level III Descriptive Statistics	IV - patient behavior DV - Broset score	Broset Violence Checklist	N=2064	Every patient presenting to ED	BVC score = 0 - 99%, 1- 5.8% 2-1.8% ≥3- 1.4%	Novel study to explore usefulness of BVC in ED. Shows BVC adaptable for ED Limitation: BVC performed only once in triage & tool is intended to be used more than once. Only security officers performed assessment. These officers have extensive training in behavior escalation.
Zibuck et al.	2019	The validity and utility of violence RA tools to predict patient violence in acute care settings: An integrative literature review.	Whittemore and Knafl systematic framework & PICOS framework	*International Journal of Mental Health Nursing*	Examine risk assessment tools to predict patient violence in general acute care hospitals	Level V	4 Major groups: 1) Tool developed or administered in Longterm psych wards 2) administer in 24hr psych wards. 3) used in general acute settings 4) used in ED	N/A	n=41	Studies excluded if did not evaluate tools in hospitals, did not measure patient violence. Children/adolescent care studies excluded	3 studies developed or tested tools in general acute settings, 2 articles included tools developed for ED	Study looked at predictive accuracy and practical utility of these tools in general acute care facilities. No single, user-friendly, standardized, and evidence-based tool available for predicting violence in acute care hospitals.
Rose et al.	2021	Development, implementation and evaluation of process to recognize and reduce aggression and violence in an Australian emergency department	N/A	*Emergency Medicine Australia*	Describe the impact of implementation of the Broset Violence Checklist, along with a score-based notification and response process into the clinical environment.	Level VI	1) Survey asked if RNs completed BVC, supported by sop & confident in ability to assess 2) compares violence risk assessments completed to actual violence 3) Planned Code Gray	1)Pre & PostNursing Staff survey 2) Point prevalence 3) Security responses to WPV	1) 76 pre and 83 post survey; 2) 250 patients 3)	Survey and point prevalence	N/A	First implementation of the BVC into existing ED system Introduction of the Behavior of Concern chart made a statistically sig improvement in documentation of violence risk assessment for all patient groups. Tool improved staff perception of sup support, and awareness and knowledge of behaviors associated with risk of violence. Significant reduction in WPV related security events
Review article: Identifying occupational violence patient risk factors and risk assessment tools in the emergency department: A scoping review.	2019		Scoping review guided by the methodological framework of Colquhoun and O'Brien	*Emergency Medicine Australia*	Systematize patient factors associated with increased risk of WPV and ecpolers and summarize validity of existing WPV risk assessment tools in ED	Level V	Eligibility criteria: Population: patients and direct patient care staff. Location: ED Topic:Pertained WPV & risk assessment tools Studies: quantitative studies, mixed methods, case studies, lit and systematic reviews	Scoping review	n=29	N/A	Broad geographical areas - 13 conducted in Australia, 3 in US & UK, and one study in ten other countries.	3 Classes of patient factors can be used to help assess the risk of WPV in the ED 1) clinical presentation 2) patient history 3) pt behavior The tools reviewed served primarily as "rule-in criteria" focused on behavior. Only BVC used as an actuarial risk assessment tool in an ED
Cabilan et al.	2020	Validity and reliability of the novel three-item occupational violence patient risk assessment tool	N/A	*Journal of Advanced Nursing*	To develop and psychometrically test a WPV risk assessment tool in ED	Level VI Mixed methods	Risk Domains: Aggression history, behavioral concerns & clinical presentation	Phase 1: case review Phase 2 : chart review Phase 3: inter-rater reliability	n=81	Mixed methods	End users of tool - primarily nurses	Tool shown to be appropriate and relevant for ED. Demonstrate acceptable predictive validity and inter-rater reliability.
Kim et al.	2022	Validation study of aggressive behavior risk assessment tool in emergency departments.	N/A	*Journal of the American College of Emergency Physicians Open*	Test the utilities of the Aggressive Behavior Risk Assessment Tool (ABRAT) for screening patients in ED.	Level IV Prospective cohort study	IV - ABRAT DV - occurrence of violent incidents	ABRAT	n=10,554	Triage nurses completed in ED or when patients were placed in room if arriving via EMS	Average age=46, 66% non-hispanic white, 14% African American	High sensitivity and specificity for identifying potentially violent patients in ED Checklist in EHR may allow for rapid id of high-risk patients and implementation of focused mitigation measure to protect staff and patients
Crane et al.	2020	Diagnostic Sensitivity of the Dynamic Appraisal of Situational Aggression (DASA) to Predict Violence and Aggression by Behavioral Health Patients in the Emergency Department	N/A	*Journal of Emergency Medicine*	Test the predictive validity of the DASA	Retrospective cohort study	Find DASA risk score compared to occurrence of violence	DASA assessment tool	n=3,433	retrospective chart review of ED patients	Male - 57%, Female -43% Mean age - 37; 57 CC+ Psych eval; 24% suicidal	Established preliminary validity of DASA screen in ED.

Appendix B

Broset Violence Checklist

Directions for use. Each of the six items are scored numerically for their presence (1) or absence (0). The total score is the sum of the assigned numbers.

	Present (1) Absent (0)
Confused	
Irritable	
Boisterous	
Physically Threatening	
Verbally Threatening	
Attacking Objects	
Sum	

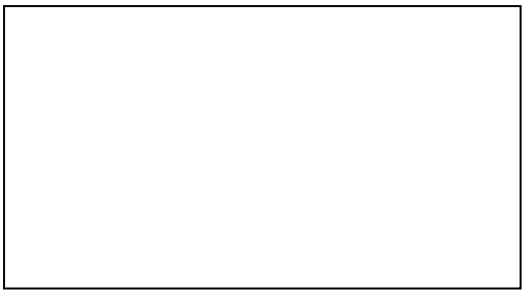
Interpretation of Scoring:

Score = 0	The risk of violence is small.
Score = 1-2	The risk of violence is moderate. Preventive measures should be taken
Score >2	The risk of violence is very high. Preventive measures should be taken. In addition, a plan should be developed to manage the potential violence.

Adapted from: Woods, P., & Almvik, R. (2002).

Appendix C

IRB Approval Letter



September 29, 2022

Monica Wright, MSN, RN, CPPS, CCRA, CHR

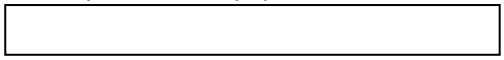
IRB #: 2022-09-002

Project Title: Workplace Violence Prevention in the Emergency Department Utilizing the Broset Violence Checklist

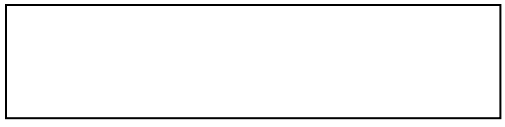
Ms. Wright,

Thank you for your inquiry regarding the above-referenced project. Based on a review of your project, and in accordance with IRB Policy 38.00, Performance Improvement and Evidence-Based Practice vs. Research, this activity has been deemed a Performance Improvement and Evidence-Based Practice project. As a reminder, any changes made to the protocol could impact this determination, and a new submission form may be required if changes are made to the protocol.

If you have any questions or concerns, please feel free to contact me at XXX.XXX.XXXX or



Sincerely,



Human Protections Administrator

Appendix D

ECU IRB Approval

Based on your responses, the project appears to constitute QI and/or Program Evaluation and IRB review is not required because, in accordance with federal regulations, your project does not constitute research as defined under 45 CFR 46.102(d). If the project results are disseminated, they should be characterized as QI and/or Program Evaluation findings. Finally, if the project changes in any way that might affect the intent or design, please complete this self-certification again to ensure that IRB review is still not required. Click the button below to view a printable version of this form to save with your files, as it serves as documentation that IRB review is not required for this project. 11/16/2022

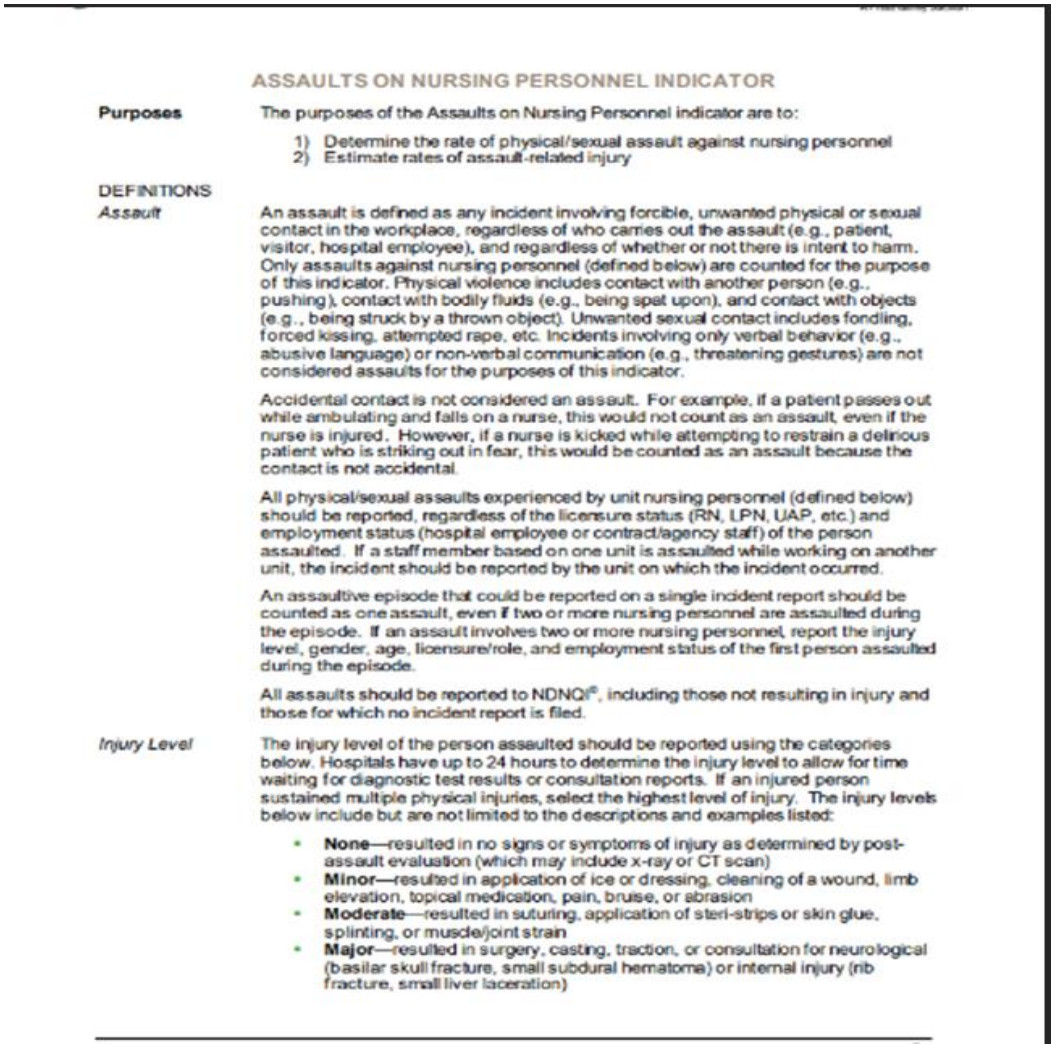
Appendix E

Data Collection Form

Compliance with Broset Violence Checklist (BVC)	Number of patients roomed in ED.	Number of patients with BVC	Score 0	Score 1-2	Score >2
Jan-23					
Feb-23					
Mar-23					
Apr-23					
May-23					
*Data collected from Epic Report					
*Public Safety Officer Intervention	Hands On	Standby	Total Number of Calls		
Jan-23					
Feb-23					
Mar-23					
Apr-23					
May-23					
*Data collected from CAD system					
*Behavioral Restraint Usage	Number of patients roomed in ED.	Number of behavioral restraints applied			
Jan-23					
Feb-23					
Mar-23					
Apr-23					
May-23					
*Data collected from AMP database					
Nurse Injury	None - resulted in no signs or symptoms of injury as determined by post-assault eval (may include x-ray)	Minor- application of ice/dressing, limb elevation, topical meds, pain, burise or abrasion	Moderate - sutures, steri-strips, skin glue, splinting	Major - surgery, casting, traction, consultation for neuro or internal injury	Total number of reported assaults to Employee Health
Jan-23					
Feb-23					
Mar-23					
Apr-23					
May-23					
*Data collected from RL Datix Safety Data & Employee Health					

Appendix F

NDNQI Assaults on Nursing Personnel Indicator Definitions



ASSAULTS ON NURSING PERSONNEL INDICATOR

Purposes

The purposes of the Assaults on Nursing Personnel indicator are to:

1) Determine the rate of physical/sexual assault against nursing personnel
2) Estimate rates of assault-related injury

DEFINITIONS

Assault

An assault is defined as any incident involving forcible, unwanted physical or sexual contact in the workplace, regardless of who carries out the assault (e.g., patient, visitor, hospital employee), and regardless of whether or not there is intent to harm. Only assaults against nursing personnel (defined below) are counted for the purpose of this indicator. Physical violence includes contact with another person (e.g., pushing), contact with bodily fluids (e.g., being spat upon), and contact with objects (e.g., being struck by a thrown object). Unwanted sexual contact includes fondling, forced kissing, attempted rape, etc. Incidents involving only verbal behavior (e.g., abusive language) or non-verbal communication (e.g., threatening gestures) are not considered assaults for the purposes of this indicator.

Accidental contact is not considered an assault. For example, if a patient passes out while ambulating and falls on a nurse, this would not count as an assault, even if the nurse is injured. However, if a nurse is kicked while attempting to restrain a delirious patient who is striking out in fear, this would be counted as an assault because the contact is not accidental.

All physical/sexual assaults experienced by unit nursing personnel (defined below) should be reported, regardless of the licensure status (RN, LPN, UAP, etc.) and employment status (hospital employee or contract/agency staff) of the person assaulted. If a staff member based on one unit is assaulted while working on another unit, the incident should be reported by the unit on which the incident occurred.

An assaultive episode that could be reported on a single incident report should be counted as one assault, even if two or more nursing personnel are assaulted during the episode. If an assault involves two or more nursing personnel, report the injury level, gender, age, licensure/role, and employment status of the first person assaulted during the episode.

All assaults should be reported to NDNQI®, including those not resulting in injury and those for which no incident report is filed.

Injury Level

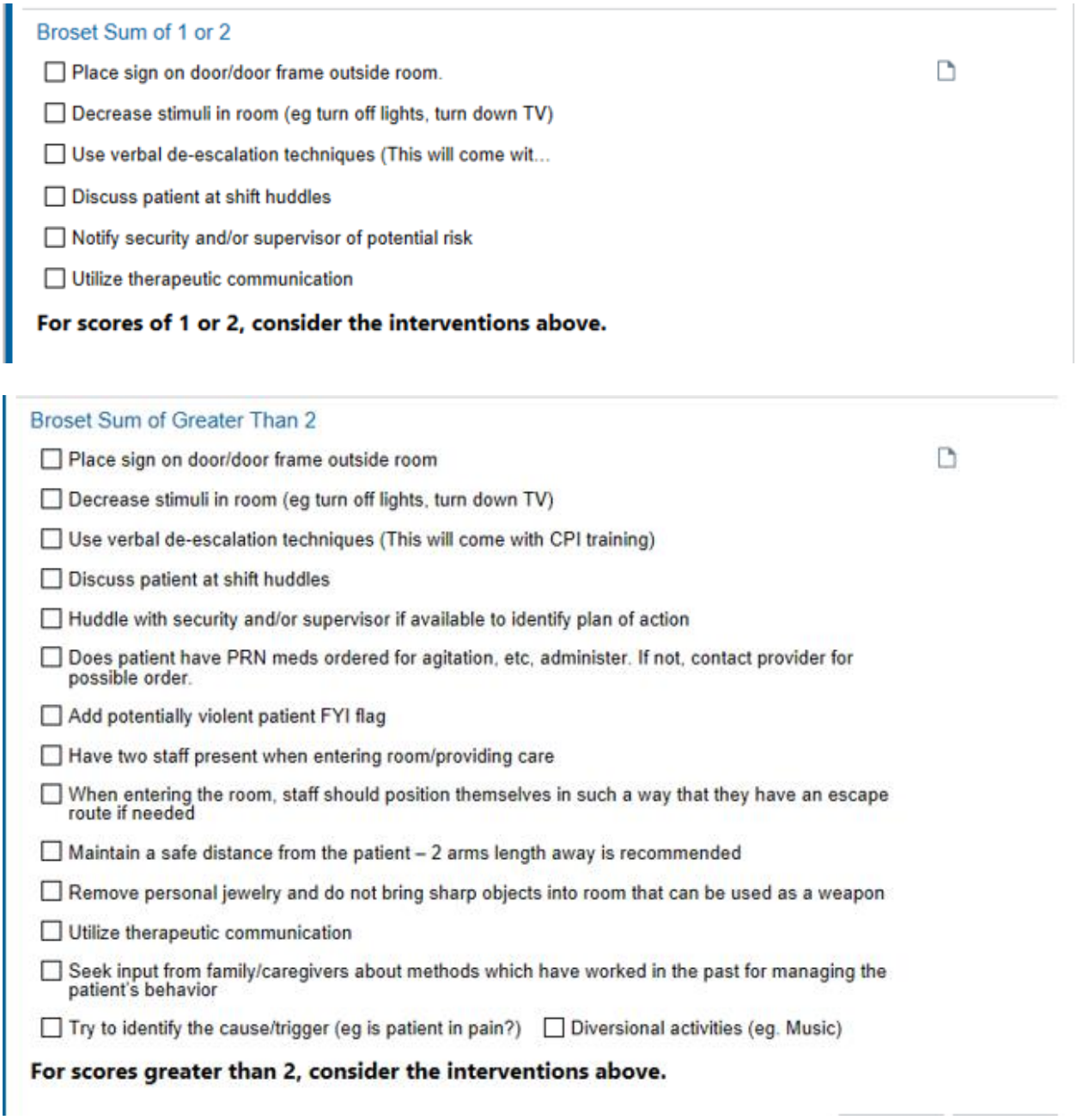
The injury level of the person assaulted should be reported using the categories below. Hospitals have up to 24 hours to determine the injury level to allow for time waiting for diagnostic test results or consultation reports. If an injured person sustained multiple physical injuries, select the highest level of injury. The injury levels below include but are not limited to the descriptions and examples listed:

- **None**—resulted in no signs or symptoms of injury as determined by post-assault evaluation (which may include x-ray or CT scan)
- **Minor**—resulted in application of ice or dressing, cleaning of a wound, limb elevation, topical medication, pain, bruise, or abrasion
- **Moderate**—resulted in suturing, application of steri-strips or skin glue, splinting, or muscle/joint strain
- **Major**—resulted in surgery, casting, traction, or consultation for neurological (basilar skull fracture, small subdural hematoma) or internal injury (rib fracture, small liver laceration)

Press Ganey. (2021). *Assaults on nursing personnel indicator.* https://members.nursingquality.org/NDNQIPortal/Documents/General/Guidelines%20-%20AssaultsOnNursingPersonnelAmbulatory.pdf

Appendix G

Interventions recommended based on the Sum of the Broset Violence Checklist



Broset Sum of 1 or 2

- ☐ Place sign on door/door frame outside room.
- ☐ Decrease stimuli in room (eg turn off lights, turn down TV)
- ☐ Use verbal de-escalation techniques (This will come wit...
- ☐ Discuss patient at shift huddles
- ☐ Notify security and/or supervisor of potential risk
- ☐ Utilize therapeutic communication

For scores of 1 or 2, consider the interventions above.

Broset Sum of Greater Than 2

- ☐ Place sign on door/door frame outside room
- ☐ Decrease stimuli in room (eg turn off lights, turn down TV)
- ☐ Use verbal de-escalation techniques (This will come with CPI training)
- ☐ Discuss patient at shift huddles
- ☐ Huddle with security and/or supervisor if available to identify plan of action
- ☐ Does patient have PRN meds ordered for agitation, etc, administer. If not, contact provider for possible order.
- ☐ Add potentially violent patient FYI flag
- ☐ Have two staff present when entering room/providing care
- ☐ When entering the room, staff should position themselves in such a way that they have an escape route if needed
- ☐ Maintain a safe distance from the patient – 2 arms length away is recommended
- ☐ Remove personal jewelry and do not bring sharp objects into room that can be used as a weapon
- ☐ Utilize therapeutic communication
- ☐ Seek input from family/caregivers about methods which have worked in the past for managing the patient's behavior
- ☐ Try to identify the cause/trigger (eg is patient in pain?) ☐ Diversional activities (eg. Music)

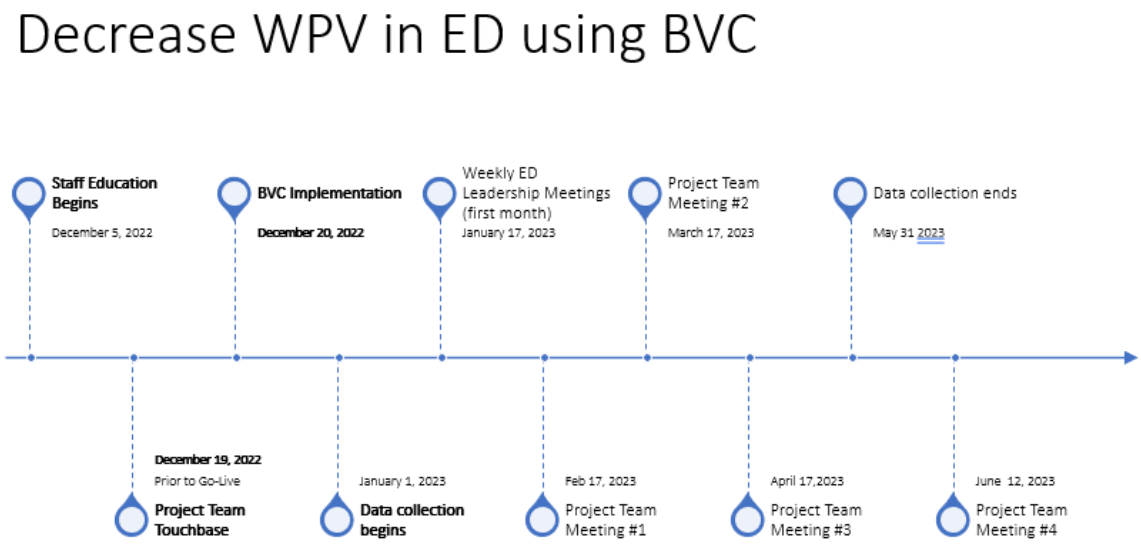
For scores greater than 2, consider the interventions above.

Adapted from "Development, implementation, and evaluation of a process to recognize and reduce aggression and violence in an Australian emergency department", by A. Senz, E. Ilarda, S. Klim, and

A. Kelly, 2021. *Emergency Medicine Australasia, 33*(4), p. 667 (https://doi.org/10.1111/1742-6723.13702). Adapted with permission.

Appendix H

Project Timeline



Appendix I

Project Budget

Item	Cost per Item & Quantity	Total Cost
Licensing Agreement	$4,298.38 for 3 years & 290 beds	$4,298.38
IT Build Time: • 5 hours build time • 10 hours troubleshooting and testing • 5 hours report writing	20 hours x 2 analysts = 40 hours x $35/hr	$1400.00
Education Prep Time	10 hours x $41/hr	$410
RN Education on Tool Use	14 hours x $41/hr	$574
Team Meeting Costs (personnel to attend)	12 meetings x 10 people x $41/hr	$902
Total Cost		$7,584.38

*$41/hr used as average cost of nurse time per Indeed (n.d.)

Appendix J

Driver Diagram