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A Program Evaluation of Violence Prevention Task Force to Address Type

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A Program Evaluation of Violence Prevention Task Force to Address Type II Workplace Violence Utilizing PRECEDE/PROCEED Model

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Abstract

Aim: The primary aim of this project was to complete a program evaluation of the institution's Violence Prevention Task Force. Evaluation allowed for assessment of outcomes including 1). decrease in assaultive incidents; 2). decrease in assaults leading to injury; 3). increase in team member reporting of assaultive incidents; and 4). demonstrate the program's adherence to published guidelines on workplace violence prevention.

Background: Violence against healthcare workers has been an increasing problem in our nation's healthcare system. Type II workplace violence is defined as patient, family member, or visitor as the perpetrator directing violent/aggressive behavior towards healthcare worker and is described as the "assailant being a customer or a patient of the workplace or employee" (Stephens, 2019). Healthcare workers, in general, are five times more likely to be victims of nonfatal assaults than any other profession (Strickler, 2018). Although statistics are alarming, rates of violence against healthcare workers is likely much higher due to underreporting. Institutions must identify causal factors and utilize governmental and national healthcare agency guidelines to implement successful prevention strategies.

Methods: Utilizing the PRECEDE/PROCEED Model, a program evaluation was completed on a healthcare institution's Violence Prevention Task Force. This institution recognized specific issues and needs related to Type II workplace violence and implemented a task force to address the problem and causes. This evaluation of processes and outcomes allowed for a thorough description and demonstration of effectiveness and adherence to published guidelines on a workplace violence prevention program.

Keywords: Type II workplace violence, aggressive/violent behavior, assaults, assaultive incidents, assaults leading to injury, reporting, nursing, violence prevention

Introduction

The United States has experienced a steady rise in workplace violence over the last decade and injuries from workplace violence doubled in the two years between 2012 to 2014 (Strickler, 2018). The United States Occupational and Safety Health Administration (OSHA) defines workplace violence as "any act or threat of physical violence, harassment, intimidation, or other threatening disruptive behavior that occurs at the work site" (United States Department of Labor, 2016). According to a study in the New England Journal of Medicine (NEJM), there are four types of workplace violence; Type II is the type of violence referenced throughout this program evaluation (Phillips, 2016). Type II workplace violence is patient, family member, visitor as the perpetrator directing violent/aggressive behavior towards a healthcare worker and is described as the "assailant being a customer or a patient of the workplace or employee" (Stephens, 2019). Although reports indicate both patients and family members/visitors as perpetrators, 80% of violence-related injuries on healthcare workers are from patients (Lukens, 2019).

Type II workplace violence assaultive incidents can be physical or verbal. Physical assaults include any acts of biting, punching, slapping, kicking, shoving, pushing, scratching, and spitting. Verbal violence has historically been overlooked as workplace violence but has been an increasing occurrence and includes "threats, verbal abuse, hostility, and harassment" (Occupational Safety and Health Administration, 2015). Nurses are the most likely healthcare provider to be victims of Type II workplace violence and in 2015, the American Nurses Association (ANA) reported "43% of nurses have been verbally or physically threatened and 24% have actually been assaulted (Schub & Karakashian, 2017)." Healthcare workers, in general, are five times more likely to be victims of nonfatal assaults than any other profession (Strickler, 2018).

Background

Healthcare workers as victims of assaultive incidents not only causes individual consequences, but also negatively impacts the overall healthcare system. The direct consequences of assaults on healthcare workers have shown to cause significant personal costs to victims, lost work time, lower productivity, and higher turnover (Strickler, 2018), all compounded by not only physical effects, but psychological stress and trauma. The snowball effects of caregiver burnout, fatigue, and/or injury have shown to cause increased medication errors and patient infections (OSHA, 2015).

Consequences for healthcare organizations and our overall nation's healthcare system are multiplying. Costs associated with employee injuries, missed work time, and turnover are high. One hospital spent $94,156 ($78,924 for medical treatment; $15,232 for lost wages) on thirty injured nurses in one year from violent physical assaults (OSHA, 2015). In addition, if a nurse leaves the job, costs to replace them are estimated to be between $27,000-103,000 based on recruitment, hiring process, training, and orientation, with higher estimates attributed to lower productivity in between loss of one nurse to hiring of another (OSHA, 2015).

The individual and overall healthcare impacts caused by workplace violence are preventable. Healthcare institutions have an obligation to provide a safe workplace and implement programs and interventions to address these issues. Research over the last decade has shown the steady rise in assaults against healthcare workers and social media have contributed to the issue having national and global attention, however institutions and governmental healthcare agencies are finding most assaultive incidents are not being formally reported appropriately or at all. Without accurate reporting, institutions are unable to react to the specific needs nor create effective plans for prevention.

It is estimated that up to 70% of incidents are underreported or not reported at all (Strickler, 2018), therefore, as indicated, incident rates are likely much higher than above stated statistics. Additionally, statistics reported above mostly indicate injuries from assaults, and do not incorporate the likely even higher numbers of verbal assaults which go more underreported than other types of assault. Research has shown underreporting is due to a few factors which include the "it's part of the job" mentality and lack of wanting to take time to complete report with all other documentation responsibilities (Lukens, 2019). OSHA indicates underreporting is also due to lack of reporting policies, lack of faith in the reporting system, and fear of retaliation (2015). Underreporting has caused this issue to be unrecognized for too long. However, statements and recommendations from governmental agencies and healthcare organizations, in addition to alarming statistics, have increased awareness of the problem and need for actions and interventions in institutions nationwide.

Existing Guidelines

In 2015, OSHA published Guidelines for Preventing Workplace Violence for Healthcare and Social Service Workers. This document includes specific guidelines for various healthcare settings, violence prevention programs, and elements of program evaluations. In addition, Joint Commission on Accreditation of Healthcare Organizations (JCAHO), an organization that accredits healthcare organizations and evaluates quality of care, also published recommendations for workplace violence prevention (2018). These two governmental and healthcare agencies dictate how healthcare organizations run and implement change on national healthcare issues. Recent increase in attention to what's been termed a "rising epidemic" (Stephens, 2019), along with requirements and guidelines, have caused healthcare organizations to create plans for prevention.

Although organizations such as OSHA and JCAHO have published referenced recommendations guiding institutions on developing prevention programs, no current national mandates on healthcare institutions exist. As of 2015, nine states in the U.S. have implemented laws requiring certain healthcare institutions to have violence prevention programs. In February 2019, H.R. 1309 – Workplace Violence Prevention for Health Care and Social Service Workers Act, was introduced. This bill would require the Department of Labor to address workplace violence in health care and social services sectors. Specific requirements include standards for certain employers in those sectors to develop and implement comprehensive plans for protection of workers. Further requirements (if passed) of the bill include:

- Investigation of workplace violence incidents, risks, or hazards as soon as possible
- Provide training and education to employees who may be exposed to workplace violence hazards and risks
- Meet record keeping requirements
- Prohibit acts of discrimination or retaliation against employees for reporting workplace violence incidents, threats, or concerns.

H.R. 1309 passed in the House in November 2019 and was received in the Senate. At that time, the bill was read twice and referred to the Committee on Health, Education, Labor and Pensions. There is no further update as of October 2020. (H.R. 1309, 2019)

Despite the lack of mandates, OSHA emphasizes creating a “culture of safety” in improving patient and worker safety in healthcare. By advocating for this atmosphere within organizations, injuries have decreased in many healthcare institutions. An atmosphere that incorporates a “culture of safety” includes “mutual trust, shared

perceptions of the importance of safety, confidence in the efficacy of preventive measures, and a no-blame environment" (OSHA 3828, 2015). For organizations to ensure their cultures of safety are strong, two principles should be followed. These include the principle of "High reliability organizations (HRO)" which are "characterized by complex systems with innate risks that must be managed effectively to avoid catastrophe" and "just culture" which "involves creating an atmosphere of trust, encouraging and rewarding people for providing information on how errors occurred, for sources of error to be analyzed" (OSHA, 2015).

OSHA incorporates and applies these principles to workplace violence prevention by elaborating on successful safety and health management systems to include core elements that can be formatted specifically for violence prevention programs. The core elements modified for violence prevention include:

- Leadership commitment and worker participation
- Worksite analysis and hazard identification
- Hazard prevention and control
- Safety and health training
- Recordkeeping and program evaluation (OSHA, 2015).

OSHA's guidelines were chosen as the guidelines utilized in the program evaluation to assess success of interventions and will be detailed further in Phase 6: Process Evaluation.

Study Location/Institution

The study institution is an 865-bed tertiary care hospital in a Mid-Atlantic state situated in an urban setting. This institution experienced a 68% increase in assaultive incident claims from FY17 to FY18 indicating a need for action. Although steadily

increasing since 2010, the sudden increase, in addition to government initiatives and healthcare organization recommendations, led to the creation of the institution's Violence Prevention Task Force in Fall 2017.

This program quickly and effectively recognized the detrimental effects this issue was causing team members and the organization as a whole and developed a plan for action. The program's structure, goals, implementation processes, and continued re-evaluations throughout initiation will be described in this program evaluation. Formally evaluating aspects of this program will provide recognition of success and allow for a model of processes and outcomes used to address this issue.

Problem Statement

Addressing the issue of Type II workplace violence is a multi-faceted approach with no single solution. Evaluation of impacts and effectiveness of initiatives and interventions must occur to result in positive outcomes for individual healthcare workers, institutions, and our healthcare system as a whole. Institutions have a responsibility to protect their employees and must evaluate their response to the workplace violence epidemic to ensure efficacy of their interventions.

Objectives and Aims

The primary aim of this project is to complete a program evaluation of the institution's Violence Prevention Task Force. This task force used a variety of interventions for this program including electronic health record (EHR) violence flagging system and online team member assault reporting which will discussed later in the Phase 5 description. Through participation in this program, specific objectives include:

1). 100% increase in the use of Electronic Health Record (EHR) violence flags

2). 50% increase in assault reporting

3). 25% decrease in assaults leading to injury/loss time from work

4). 75% adherence to published guidelines on workplace violence prevention

Theoretical Model

Havelock's Theory of Change was used as a theoretical framework for this project and correlates well with the change process the task force implemented. This theory, described by White, Dudley-Brown, & Terhaar, was adapted from Lewin's Theory of Change, and was created as a guide for environments to create change by "organizing their work and implementing innovation" (2016). It consists of six steps (although the visual model adds step "0") and each step should be monitored by the "agent" of change. The steps include:

Care - attention to the lead for change
Relate - build a relationship
Examine - diagnose the problem
Acquire - acquire the relevant sources
Try - choose the solution
Extend - disseminate, diffuse, and gain acceptance
Renew - stabilize and sustain capacity

The first step/phase focuses on ensuring adequate time is dedicated to introducing the change to those affected and the change is easily visible, in addition to the audience recognizes the support from the organization during the change. This phase should also demonstrate leadership/administrative support for change and identify roles/responsibilities for those involved. The subsequent steps/phases ensure support services are set up, training is developed, change is integrated, and participants are actively involved.

Precede/Proceed Model

The PRECEDE/PROCEED Model was used as the framework to complete this program evaluation and served as a structure to effectively assess the effectiveness and

outcomes of the program. The PRECEDE-PROCEED model consists of planning, implementation, and evaluation phases which were used to detail the phases of this specific program. The fundamental principle of the framework is emphasized as incorporating active participation of the audience throughout all phases leading to better success. Key stakeholders impacted by the issue participate in making and prioritizing goals to develop and implement solutions. Each phase in the model should be individually assessed continually throughout the program and planned to ensure all factors are identified, processes are productive, and objectives are measurable. (Gielen et al., 2008)

Utilizing the Precede-Proceed Framework for this program evaluation allowed for retrospective assessment of the planning, implementation, and evaluation phases individually to identify outcomes. The PRECEDE portion consists of program planning phases which will include assessments of social/epidemiological, behavioral/environmental/educational, and administrative/policy of the institution and stakeholders affected by the problem. The PROCEED portion consists of the implementation phase which will demonstrate specific interventions and actions taken for initiation for interventions. Finally, evaluation of process, impacts, and outcomes concludes the PROCEED portion of the framework and provides a summary of the program's results and findings.

Phase 1: Social Assessment

The Violence Prevention Task Force is a multi-disciplinary committee consisting of hospital leadership and administrators, physicians, registered nurses from many departments (medical surgical, emergency department, intensive care, psychiatry), hospital security, campus police, insurance and claims department, risk/legal

management department, quality and safety department, information technology department, and chaplain services.

The creation of the institution's Violence Prevention Task Force came after the national and organizational issues of Type II workplace violence were understood and the need for urgent intervention was recognized. For a program to be successful, objectives, goals, and desired results must be determined at initiation of the program and assessed throughout each step of the program. Specifically, desired results in a violence prevention program must be individualized and prioritized based on the institution's needs. This organization set goals of creating and implementing rapid initial steps to better understand assaults occurring within their own system. This would help ascertain what the needs were for the institution. Early interventions, as well as later and ongoing initiatives will be detailed in Phase 5: Implementation.

Phase 2: Epidemiologic Assessment

Understanding environmental and behavioral determinants of a problem is imperative in addressing the impacts and in this case working towards violence prevention. Environmental determinants include the institution's location, surrounding community, and patient population. The tertiary care institution is situated in an urban area of a MidAtlantic city surrounded by a college campus and interstate highways. The surrounding community experiences high rates of violent crimes, including gun violence, with a Crime Index of 5; an index of 100 being the safest. In addition, as the city's only trauma center, most victims of community violence with injuries are brought to and cared for at this center.

More specifically, situational environment determinants include location/unit within the institution, structure/layout of the location/unit, patient acuity in the specific

location/unit, time of day, nurse to patient ratio in the specific location/unit, and whether security/police have presence in the specific location/unit. These identified situational environmental determinants in the institution have been compared to assaultive incidents.

It is well known and documented in literature most assaultive incidents happen in emergency and psychiatric departments, however incidents in medical floors have been on a steady rise, which this institution has experienced. This institution has experienced incidents occurring more often or progress quicker if the specific location is further away from response teams, if panic buttons are not within reasonable reach, or when less staff are available to assist when patient's behavior escalates.

The organization found most incidents occur in the evening hours or night shifts. Finally, due to the high risk in emergency departments and the surrounding community of this institution, dedicated security and police officers were placed for 24/7 coverage for quick response. Due to the diligent work by the task force, several more specific units have been identified as high risk due to the high amounts of incidents reported. These five specified units receive hourly rounding by security and police to create a safe environment and identify any potential risks before incidents occur.

Behavioral determinants also identified in the epidemiologic assessment of the issue of workplace violence in this institution include reasons for healthcare worker underreporting of assaults and healthcare workers de-escalation techniques. Behavioral factors of patients include cause of violent/aggressive behavior, reason for hospitalization, and state of mentation/orientation.

Underreporting has been seen not only in this organization, but throughout all healthcare organizations. Literature found reasons for this include lack of reporting systems/policies within healthcare institutions, lack of faith in the reporting systems if

they do exist, fear of retaliation, lack of time or desire to want to fill out more forms/documents, and most concerning being healthcare employees feeling as though "this is part of the job" (Lukens, 2019). This mentality has been discussed in literature and reports and was identified as a key issue needing to be addressed by changing culture and employees' feelings on this (Lukens, 2019).

These environmental and behavioral determinants are important for institutions to assess within their organizations to ensure appropriate and effective measures are implemented based on specific needs.

Phase 3: Educational & Ecological Assessment

The PRECEDE/PROCEED Model indicates need for determining predisposing, reinforcing, and enabling factors which may affect environmental and behavioral determinants identified. These factors influence the possibility of change from interventions. Predisposing factors "provide rationale for behavior and include an individual's knowledge, skills, preferences, and beliefs". Enabling factors are those that allow a motivation or policy to be recognized and include interventions or resources necessary for outcomes to be achieved. Finally, reinforcing factors are those that "provide continuing incentive for repetition of behavior". (Gielen et al., 2008)

Predisposing Factors

The predisposing factors identified for Type II workplace violence in this institution include staff's "violence is part of the job" mentality, staff's allowance/excuse of perpetrator behavior because of patient diagnoses, mental state, or physiologic reason for altered behavior, and staff's perception and lack of faith in the institution's reporting system. These factors have been discussed in task force meetings amongst committee

members and were informally identified based on the self-assessment the organization completed.

Enabling Factors

Enabling factors that helped with achieving necessary outcomes included easily accessible incident reporting, evident institutional support of "zero tolerance policy", and appropriate response and plans during and post violent incident. These factors, too, were extensively discussed as factors that should be acted upon and would allow for outcomes to be achieved.

Reinforcing Factors

Reinforcing factors which are ongoing in the institution include continued dissemination of information on effective strategies and interventions to provide a safer work environment and address potentially violent/violent behaviors in patients and visitors.

These factors are also important to identify, an addition to environmental and behavioral determinants described in Phase 2, to again ensure appropriate and effective measures are implemented based on specific needs.

Phase 4: Administrative & Policy Assessment

Administrative influences can lead to either improving and building programs or cause barriers and prevent a program from implementing any interventions. Interventions were developed and approved with administrative support and were based on assessments and identifications of environmental and behavioral determinants and factors described in Phase 2 and Phase 3.

Policies were formed and edited based on multi-disciplinary teams and institutional departments to align with not only the institution's mission and goals, but

also the mission and goals of the task force. The creation of the task force was initiated by the administrative leaders in the health system with the first goal of having a multi-disciplinary group of committee members. Administration ensured costs should not be a barrier in implementation of preventative measures and funds would be allocated as appropriate to fulfill needs.

One early step the task force took to determine the organizational needs was to participate in a self-assessment in conjunction with the ERCI Institute, originally founded Emergency Care Research Institute, an independent, nonprofit organization authority on medical practices and products that proves the safest and most effective care. Another step administration enforced was bringing in an expert consultant who spent two days at the organization providing an assessment of environment, policies, and culture and provided expert advice on workplace violence.

Finally, this institution's biggest goal was to ensure establishment of a "Zero Tolerance Policy" and make it apparent to all in the environment. The organization created and placed signage throughout the institution (inpatient and outpatient settings) to ensure employees and visitors understood this as a priority.

Phase 5: Implementation

This task force made a priority to ensure organizational and administrative stance on support, zero tolerance for violence, and disagreement on acceptance of violence as part of a healthcare job. Implementation of dozens of interventions (including early actions mentioned in Phase 4) were quickly executed by the task force. As of October 2020, thirty-one interventions were implemented with an additional six ongoing. This phase of the program evaluation will discuss several interventions that have been impactful for the organization. The first two, Post Assault Huddle Form/Assault

Reporting and Electronic Health Record (EHR) Violence Flags will further be connected to outcomes and measures in subsequent phases and described in detail for this DNP Project. All interventions discussed are impactful and further discussion will compare alignment/adherence with published guidelines on workplace violence.

Post Assault Huddle Form/Assault Reporting

The organization recognized the 68% increase in assaults in one year and within three months of the task force's creation, a Post Assault Huddle Form was implemented in December 2017. This was a pilot project with the goal of debriefing on every assaultive incident in the emergency and psychiatry departments. Two months later, in February 2018, this was expanded throughout the organization. In early 2019, the Post Assault Huddle Form was transitioned to an online reporting form for assaults. This form captured details of the incident including location, time of occurrence, perpetrator behavior leading up to incident, injury/injuries sustained, resources implemented to alert of escalation of violence of perpetrator (panic button, call to security/police, medications given, etc).

After staff feedback and findings of missed opportunities for gathering specific information from the questions, the form was again modified to capture more specific information on events/behavior leading up to violent incident. This allowed for gathering information on patterns seen regarding most common circumstances leading to perpetrators violent behavior. This institution's perpetrators of physical are mostly patients and most often are experiencing delirium at the time of the assault.

There were also additional modifications made which allowed for the user to differentiate between a verbal or physical assault therefore the reporter would not have to fill out unnecessary questions or information not pertaining to the incident (such as

physical injuries) if it was a verbal assault. The institution was seeing a much lower number of verbal assault reports. Staff feedback indicated that completing the assault report form was cumbersome if the assault was verbal, due to filling out unnecessary information, such as injury and worker's compensation information, which was leading to staff not completing the form. The changes made eliminated unnecessary sections for verbal assaults with the goal of improve reporting of this type of assault which is the most underreported.

Electronic Health Record (EHR) Risk of Violence Flags

Another impactful intervention implemented in 2019 was electronic health record (EHR) Risk for Violence Flags. This is an alert banner in the patient's electronic health record that can be initiated for patient's that have demonstrated or shown risk for aggressive/violent behavior. This is intended to alert staff when opening patient's chart to be aware of potential harm when caring for or interacting with the patient. There are three levels of violence with 3 being most severe. There are two types of flags. The "Personal Level Flag" remains in chart on discharge so it can be seen in ambulatory clinic or if transferred to psychiatry department and only Risk Management team can remove these flags. There is also an "Encounter Level Flag" in which team members on the care team can remove during the hospitalization if appropriate.

Additional Interventions

Although the above interventions are the two highlighted and connected with measures in this evaluation, the task force implemented many more significant initiatives towards the goals of a safer work environment and violence prevention. In addition to the EHR Violence Flags, the Behavioral Events Rapid Response Team (BERRT) began proactively rounding on patients with violence flags two months after the flags were

initiated to assist in treatment planning to reduce violent episodes. The primary medical team often receives consult assistance from psychiatry to help in evaluation and make recommendations on if pharmacologic therapy is appropriate for the patient/situation.

Zero tolerance signage was approved and placed at all entrances in the hospital, as well as in all clinical settings. The signage described the institution's expectations for caring and respectful communications and interactions. This helped support the Zero Tolerance Policy the institution wanted to emphasize to all staff and visitors in the environment to ensure understanding of the institution's actions and support in improving violence prevention.

Mandated de-escalation training was implemented for security and police. The task force then initiated de-escalation training availability to any individual and/or unit that would like to participate which would also offer customized training for specific unit's needs.

The organization implemented Patient Care Agreements in the same month as the Post Assault Huddle Form was initiated, which are contracts setting respectful boundaries, and presented to patients demonstrating violent, aggressive, or threatening behavior to staff. The contracts are written by the medical team with the guidance and approval of the Risk Department and are meant to describe expectations of respect from patients towards staff and include consequences of limited or restricted visitors and even administrative discharge if behaviors do not improve or cease.

In Fall 2019, the task force completed a Comprehensive Violence Prevention Policy for the institution which details resources available for team members in prevention, reaction, and response to violent events. Two levels of weapon detection screening were installed in the same time period.

Each assault is reported on daily operations briefing with hospital leadership to help identify cause and ensure resources are in place in specific areas.

Finally, initiatives ongoing at the time this document was written, include Risk for Violence Signage in the entrance or in patient's rooms, ongoing enhancements of assault reporting, obtaining staff duress technology, and post assault guidance (a decision tree to help staff in immediate post assault period to ensure safe patient care and support for the team member who has been assaulted. Despite the COVID-19 pandemic, these initiatives are still ongoing, although have been delayed.

Phase 6: Process Evaluation

The process evaluation for this program will show the task force's alignment/adherence to previously discussed OSHA's published guidelines on workplace violence prevention. OSHA's (2015) core elements in successful violence prevention programs are described again below and include description of the task force's initiatives and correlation with each core element.

- Leadership commitment and worker participation – As outlined in Phase 4: Administrative & Policy Assessment, the institution's leadership and initial policies were focused and aggressive in discussing this issue. The creation of the multi-disciplinary task force and the institution's leadership support was apparent. In addition, the initial policies and initiatives early in the program's creation proved leadership commitment and significant staff feedback. The feedback was mostly from bedside nursing feeling the majority of the violence, which correlates with the OSHA's recommendation in ensuring institutions worker participation in improving violence prevention.

- Worksite analysis and hazard identification – As described in Phase 4: Administrative & Policy Assessment, the task force participated in Health Care Risk Control Survey which was an organizational self-assessment with ERCI Institute, which allowed the institution to complete an analysis of the worksite and identify hazards. In addition, an expert consultant on violence prevention was brought in that was able to contribute to these elements.
- Hazard prevention and control – All initiatives and interventions implemented by the task force have shown connection with hazard prevention and control. Some of the most impactful interventions with this element include increased security/police presence and rounding in high risk areas, weapon detection screening, proactive behavioral response team rounds, and Zero Tolerance Signage throughout the organization.
- Safety and health training – The task force, since creation, has conducted training for every necessary intervention implemented including each change to Post Assault Huddle Forms/assault reporting system, BERRT (Behavioral Emergency Rapid Response Team) calls and resources provided during this response, de-escalation training (general and unit specific), EHR Risk for Violence Flags, etc. Safety and training for interventions implemented in the work place is high priority for the task force and institution to ensure all staff are properly equipped with needed resources to create the safest work environment.

- Recordkeeping and program evaluation – The implementation and continued modifications to the Post Assault Huddle Forms and now electronic assault reporting system has showed this program's commitment to timely, accurate, and convenient reporting for staff. In addition, the system has been effective in maintaining records to analyze data and determine needs based upon the information gathered. No formal program evaluation has been completed before this current evaluation. The task force has presented their work at the National Institute of Health Conference and to a group of peers participating in the Vizient Workplace Violence Benchmark Study. In addition, the task force's accomplishments were recognized and obtained high remarks in the category of workplace violence prevention in the institution's 2020 Virtual Magnet Survey.

The above descriptions highlight the program's adherence to OSHA's guidelines which show adherence in all elements. One of the four targeted objectives and measures for the program evaluation was a 75% adherence to published guidelines on workplace violence prevention. This shows 100% adherence given initiatives and interventions have been implemented or in process by the task force.

Phase 7: Impact Evaluation

In completing an impact evaluation, three factors were assessed including: 1) were environmental and behavioral determinants specific to the institution addressed; 2) assessment of organizational change based on predisposing, reinforcing, and enabling factors, and 3) comparing the institutional needs assessment with the interventions/initiatives implemented or in process.

As described in Phase 2: Epidemiologic Assessment, environmental determinants include the institution's location, surrounding community, and patient population. In addition, situational environment determinants include location/unit within the institution, structure/layout of the location/unit, patient acuity in the specific location/unit, time of day, nurse to patient ratio in the specific location/unit, and whether security/police have presence in the specific location/unit. These identified situational environmental determinants in the institution have been compared to assaultive incidents.

The institution recognizes the environmental determinants of the institution's location, surrounding community crime rate, and patient population served and has made goals with this knowledge in mind. Additionally, the specific situational environmental determinants have also been recognized which was one of the reasons for including such demographic and situational information in the Post Assault Huddle Forms/assault reporting system, in order to collect data and prove any correlation.

Following Institutional Review Board approval, data was gathered from numerous sources to complete the impact evaluation. Data was gathered from FY 2020 to give examples of how specific information, included in the Post Assault Huddle Form, was assessed and then used to refine interventions. Figure 1 shows hospital unit-based assault data indicated which units have higher rates of assault. Results show certain Intensive Care Units and general/step-down level medicine units have the highest rates. Figure 2 shows assault trends by time of day indicated 43% of assaultive incidents occurred in an 8-hour window, from 2000-0400. Figure 3 shows assault data by day of week with no significant trends or correlations related to day of the week the assaultive incidents occurred. Finally, Figure 4 shows data on contributing factors to assaultive incidents. These categories were further revised after advisement from the Violence Prevention

Task Force as some were too ambiguous to fit into the actual circumstance of the incident. The task force compares this data with the unit's specific patient population, acuity, nursing ratios, history of assaultive incidents, etc. Examples of other data that have been suggested to gather include experience of nursing reporting incident to show any correlation with bedside nursing experience and de-escalation techniques.

Creating change surrounding workplace violence based on predisposing, reinforcing, and enabling factors is imperative for any organization and this institution's changes were effective. As described in Phase 3: Educational and Ecological Assessment, predisposing factors included include staff's "violence is part of the job" mentality, staff's allowance/excuse of perpetrator behavior because of patient diagnoses, mental state, or physiologic reason for altered behavior, and staff's perception and lack of faith in the institution's reporting system. The task force recognized these factors and ensured the "Zero Tolerance" signage and policy were emphasized. In addition, ensuring understanding of circumstances surrounding the perpetrator's behavior was top priority in order to make effective changes based on common patterns, in which delirium has been the most causal behavioral factor in assaultive incidents. Finally, all interventions above highlight the importance for staff to have increased faith the reporting system and for staff to know the organization's support.

Enabling factors that helped with achieving necessary outcomes included easily accessible incident reporting, evident institutional support of "zero tolerance policy", and appropriate response and plans during and post violent incident. These have been highlighted through the prior phases.

Reinforcing factors which are ongoing in the institution include continued dissemination of information on effective strategies and interventions to provide a safer

work environment and address potentially violent/violent behaviors in patients and visitors.

The institution's needs were assessed throughout the initial steps of the task force by understanding the epidemiologic and educational and ecologic assessments (Phase 2 and Phase 3) surround the issue, participating in the organizational self-assessment with ERCI Institute, and consulting an expert on workplace violence.

This impact evaluation showed that all factors assessed were successfully addressed by the task force.

Phase 8: Outcome Evaluation

The outcome evaluation shows results correlation with the described interventions of Post Assault Huddle Forms and Electronic Health Record Violence Flags. The measures include number of assaults reported by employees, number of assaults leading to injury, and number of EHR violence flags. Data presented is collected by the institution independently and is retrospective.

Figure 5 shows data on assaults in the institution from FY 2010 to FY 2020. Although this data indicates assaults, it also demonstrates reporting as assaults would not be recorded if not reported. It shows a 350% increase in assaults, therefore reporting, over the last ten fiscal years. Since creation of the task force there has been a 195%, 75%, and 129% increase respectively from 2017-2019 compared to 2020. As noted throughout the evaluation, the task force was created in 2017 with most interventions being implemented in 2018-2019 and reports from FY 2019 to FY 2020 more than doubled. The number of assaults is likely much higher than reported, as verbal assaults are significantly underreported. The interventions to create Zero Tolerance culture and continued modifications to the Post Assault Huddle Forms/assault reporting system and

encouraging reporting every assault (verbal or physical) despite the severity is contributed to the results shown. The targeted measure for this outcome was to show a 50% increase in assault reporting and data shows exceeding this measure.

Figure 6 shows data on assaults leading to injury/lost time from work in the institution over the same time period (last ten fiscal years). Data shows a 15.7% decrease from FY 2010 to FY 2020. At the peak of assaults leading to injury in 2012 at 31.82%, there has been a 30.6% decrease. The targeted measure for this outcome was to show a 25% decrease in assaults leading to injury/lost time from work.

Figure 7 shows data on number of EHR violence flags used from January-October 2020. These numbers indicate the total number of violence flags used each month. Specifically, every day the patient has a flag in their EHR system, counts as 1. Therefore, if the patient's hospital stay is five days and they have demonstrated violent behavior warranting a violence flag and it does not improve for the flag to be removed from the system before discharge, that will count as five violence flags. Some patient's violent behavior may be due to their acute medical condition and are able to have their flag removed during the hospital stay, where as other patients may have flags initiated upon arrival to the hospital due to previous violent behaviors.

Data for this measure was only able to be obtained from the dates shown (January -October 2020). The data is limited and somewhat non-specific in not indicating number of patients with violence flags or average length of stay/length of time a patient requires flags. It is also fairly variable, especially in the month of May (there is currently no indication on why the results for this month decreased so significantly but likely due to COVID-19 pandemic). Despite these limitations, it still does provide visual data on this institution's use of violence flags. Due to the fact there is no comparison with this data to

when EHR Violence Flags were initiated, measurement could not be completed, although the targeted measure for this outcome was a 100% increase in use. Likely, the data would show this targeted measurement as the intervention was just established in early 2019, no formal comparison could be made. Future plans post completion of program evaluation include obtaining further EHR Violence Flag data.

Conclusion

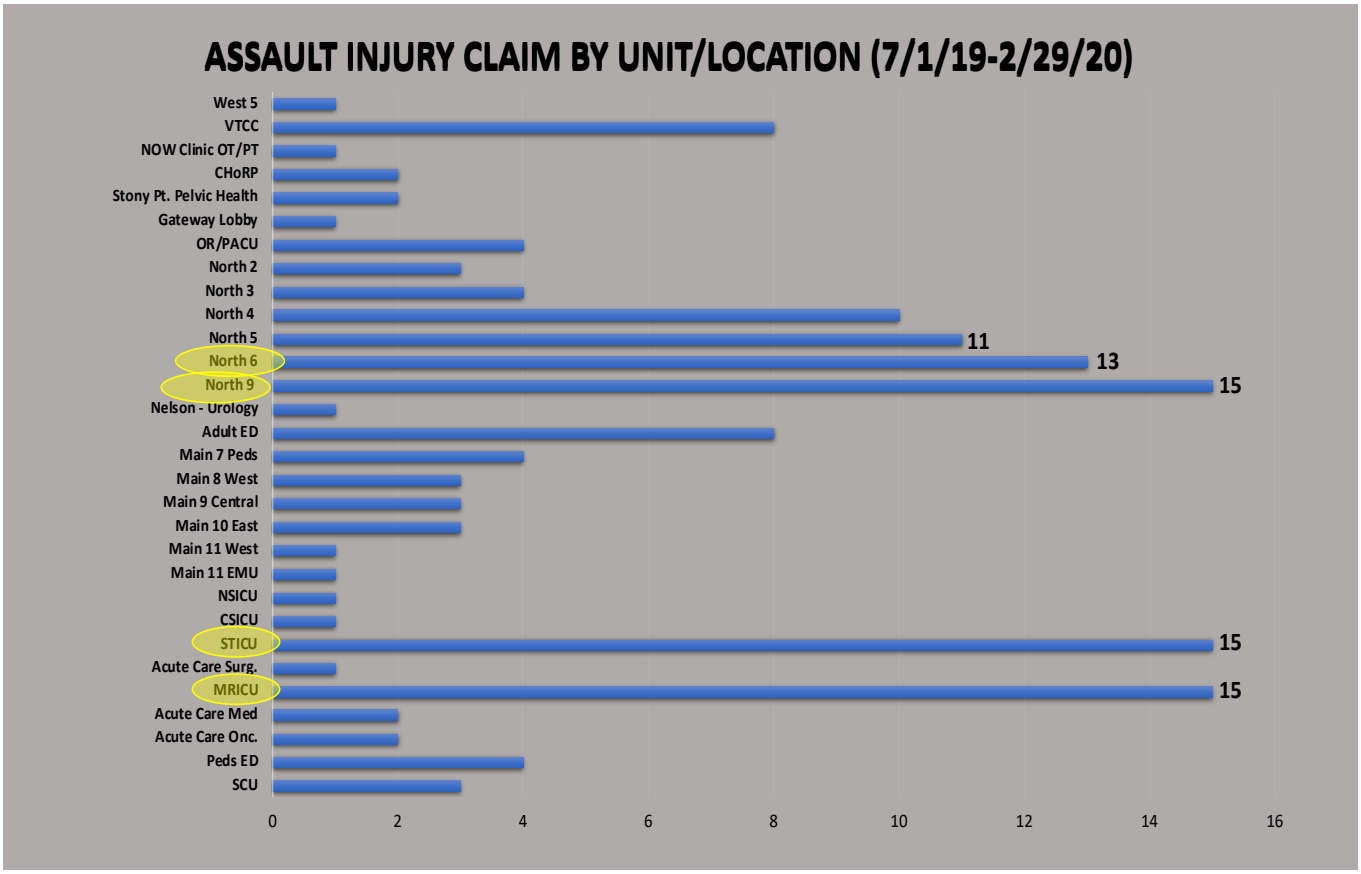
This program evaluation highlights many effective interventions implemented by this institution and work of the Violence Prevention Task Force. Although robust, the information provided does not detail every goal and intervention initiated that met the institution's goal of improving violence prevention which have proved to be effective and serves to be a model for other institutions.

In completing the program evaluation, three of four objectives/measures were met and described, with one objective/measure not obtained due to inability to access all necessary data. Despite this limitation, each phase in the Precede/Proceed Method indicates the guide in completing a program evaluation to show all steps in early initiation phases to assessing and evaluating outcomes. This program does not indicate the gold standard for violence prevention for every institution but highlights the importance of completing all necessary assessments and needs of individual organizations and creating individualized plans accordingly. Further work is needed to continue to assess and evaluate outcomes from ongoing interventions, however results presented correlate with the most impactful interventions related to violence prevention in this institution and show effective strategies in the institution's goal of improvement in violence prevention measures.

Figures

Figure 1

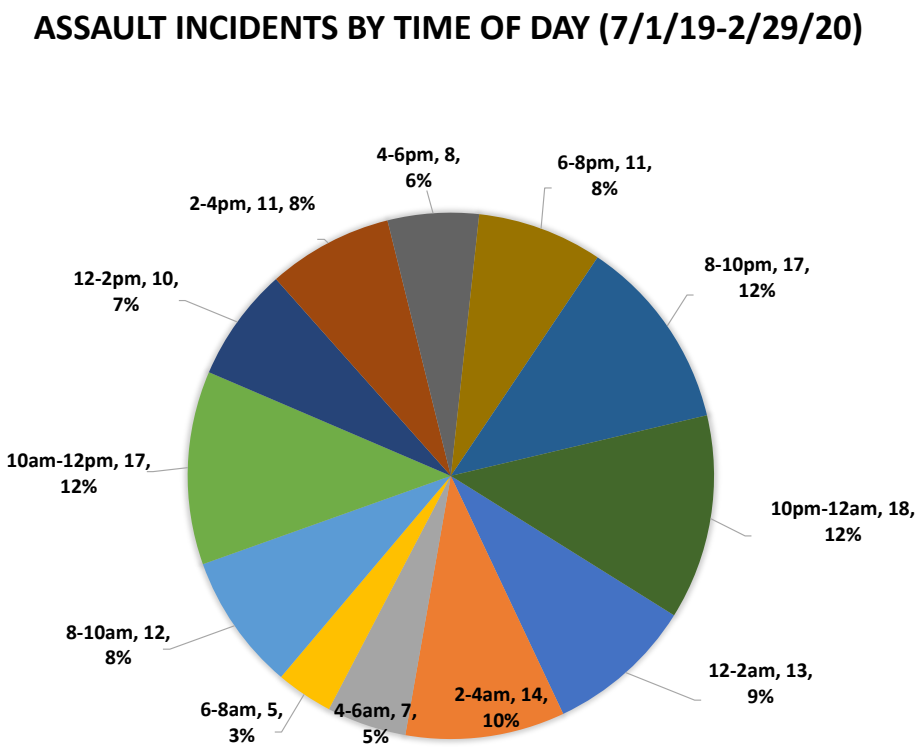
Assault Injury Claim by Unit/Location



Note: Data collected by institution's Asssault Reporting System and access to data was obtained from the institution's Claims Department.

Figure 2

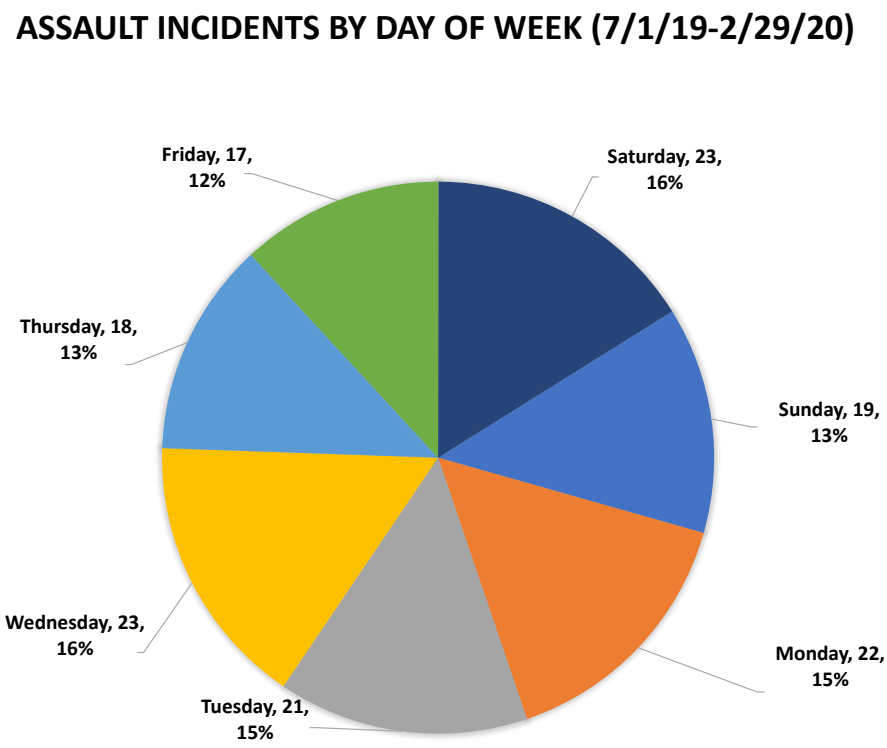
Assault Incidents by Time of Day



Note: 43% of assaultive incidents in FY20 YTD occurred during 8-hour period between 8:00pm and 4:00am. Data collected by institution's Asssault Reporting System and access to data was obtained from the institution's Claims Department.

Figure 3

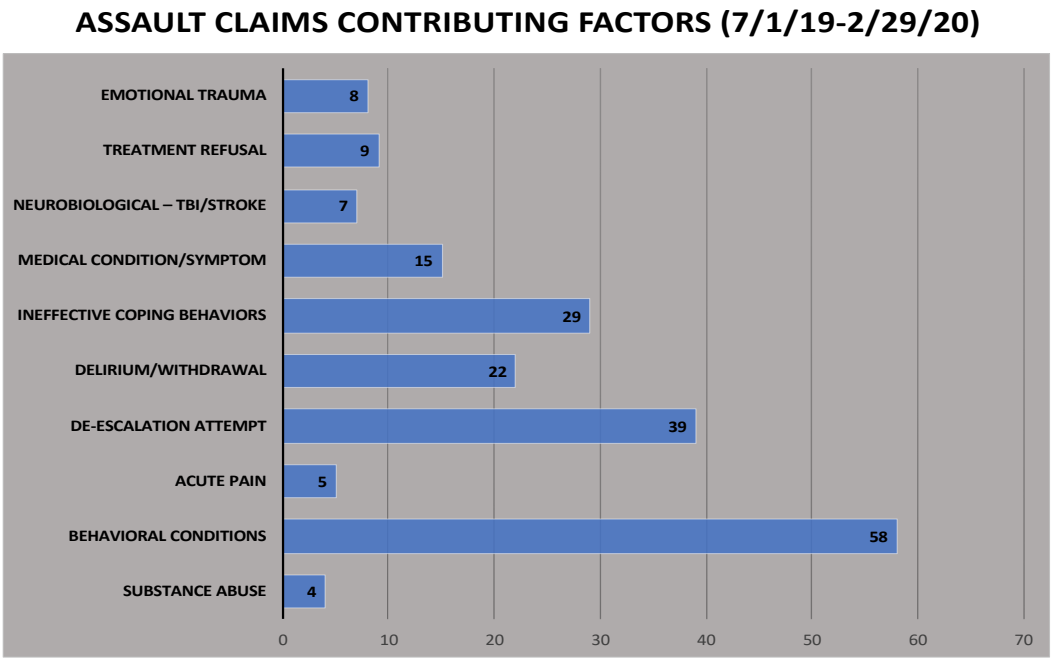
Assault Incidents by Day of Week



Note: Assault Data for FY20 YTD shows no significant trends or correlations related to the Day of the Week that the incident occurred. Data collected by institution's Asssault Reporting System and access to data was obtained from the institution's Claims Department.

Figure 4

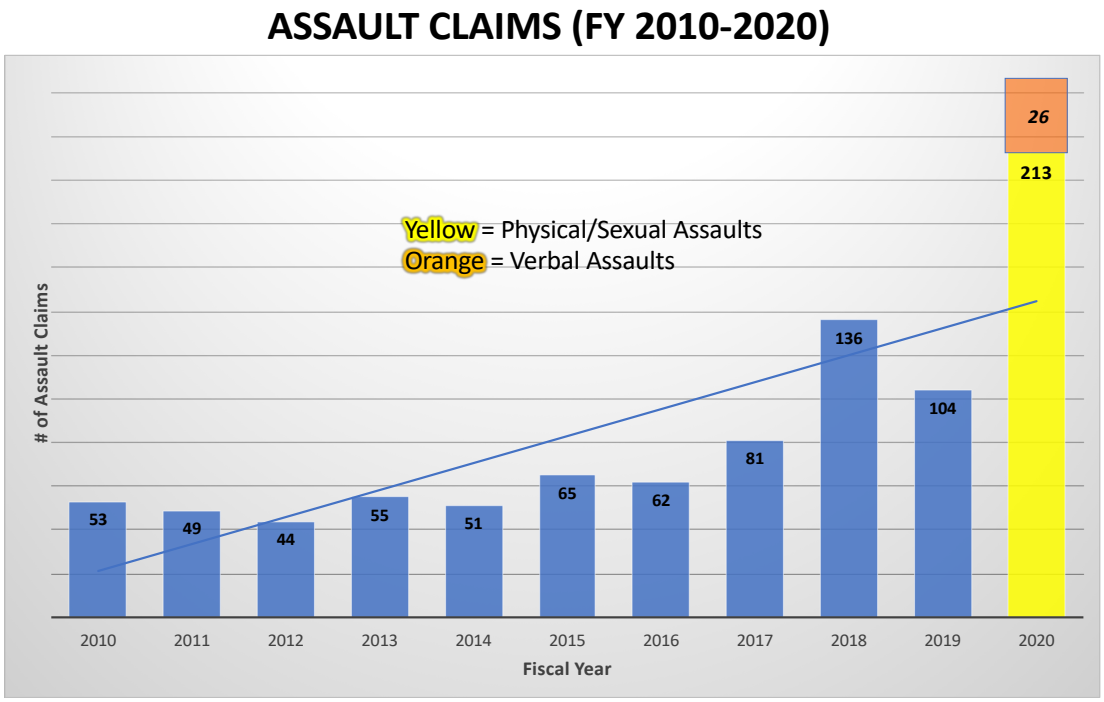
Assault Claim Contributing Factors



Note: Data collected by institution's Asssault Reporting System and access to data was obtained from the institution's Claims Department.

Figure 5

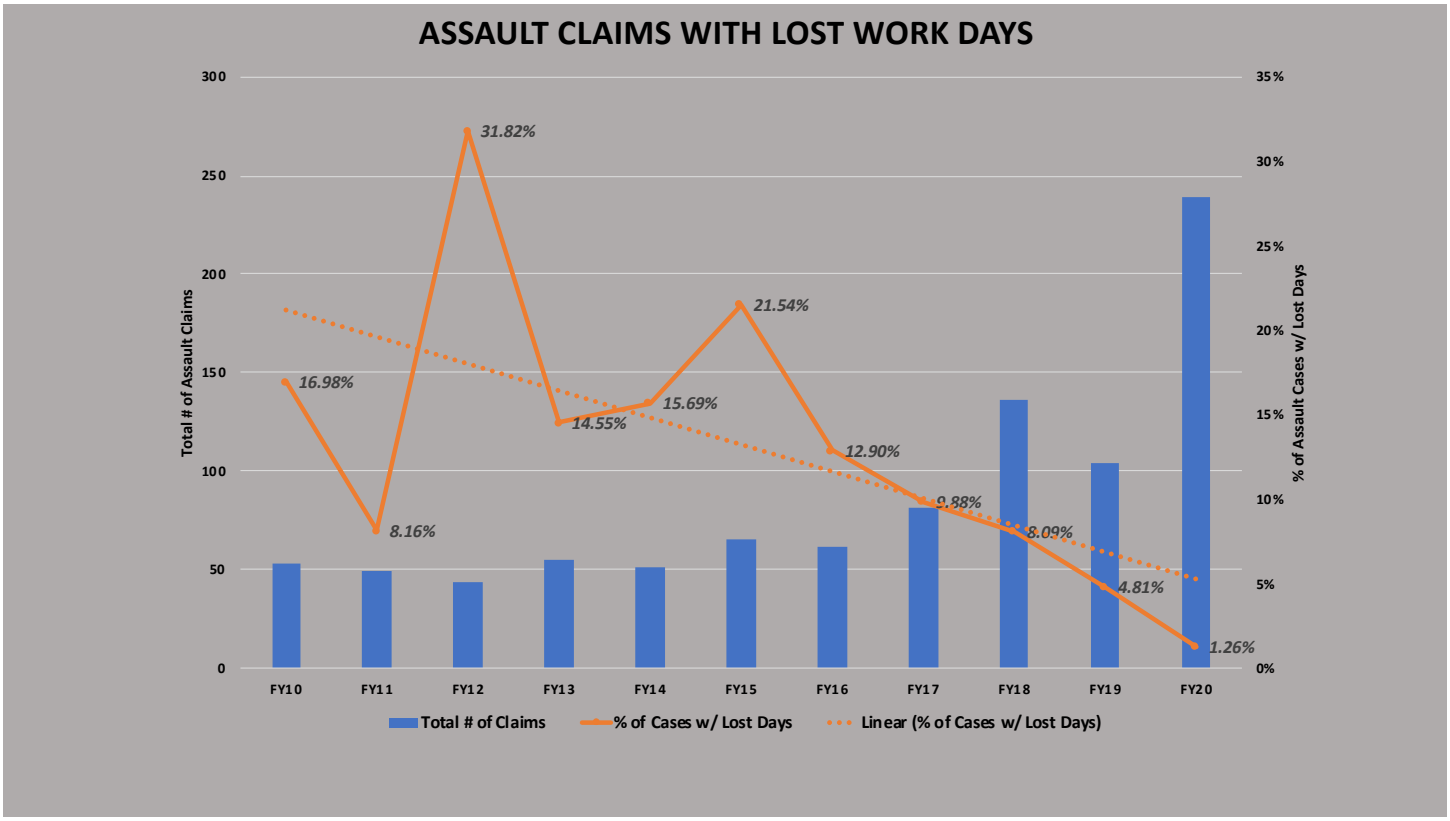
Assault Claims FY 2010-2020



Note: In FY 2020, *211 were physical assaults, 26 were verbal assaults, and 2 was a sexual/physical assault.* Data collected by institution's Asssault Reporting System and access to data was obtained from the institution's Claims Department.

Figure 6

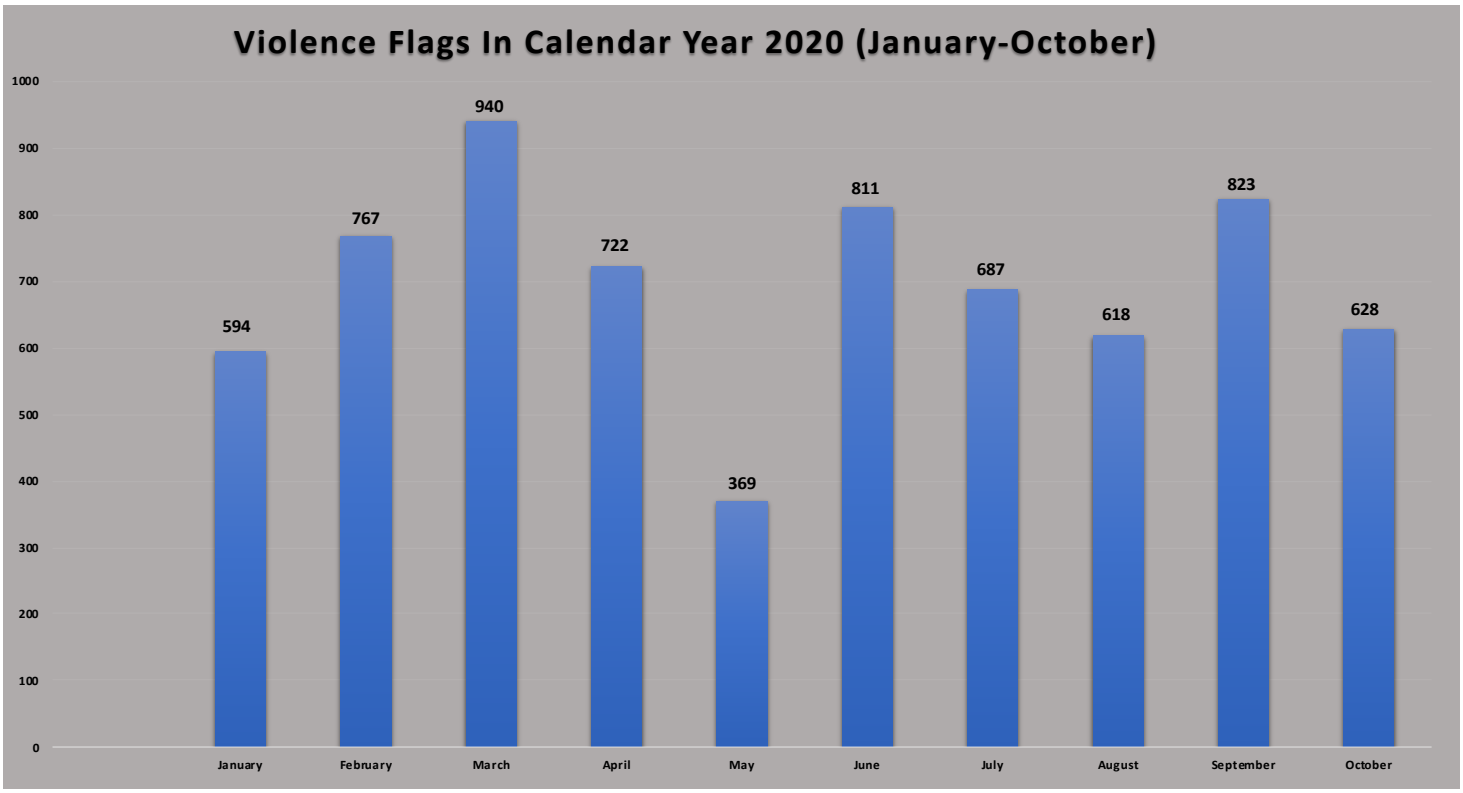
Assault Claims with Lost Work Days



Note: Total Assault Claims vs. % of Assault Cases w/ Lost Days from Work (Frequency vs. Severity) Despite the significant overall increase in the number or reported assaults over the last 10 years, there has been a significant DECREASE in the percentage of assaults resulting in lost time from work over the last 5 years. Data collected by institution's Asssault Reporting System and access to data was obtained from the institution's Claims Department.

Figure 7

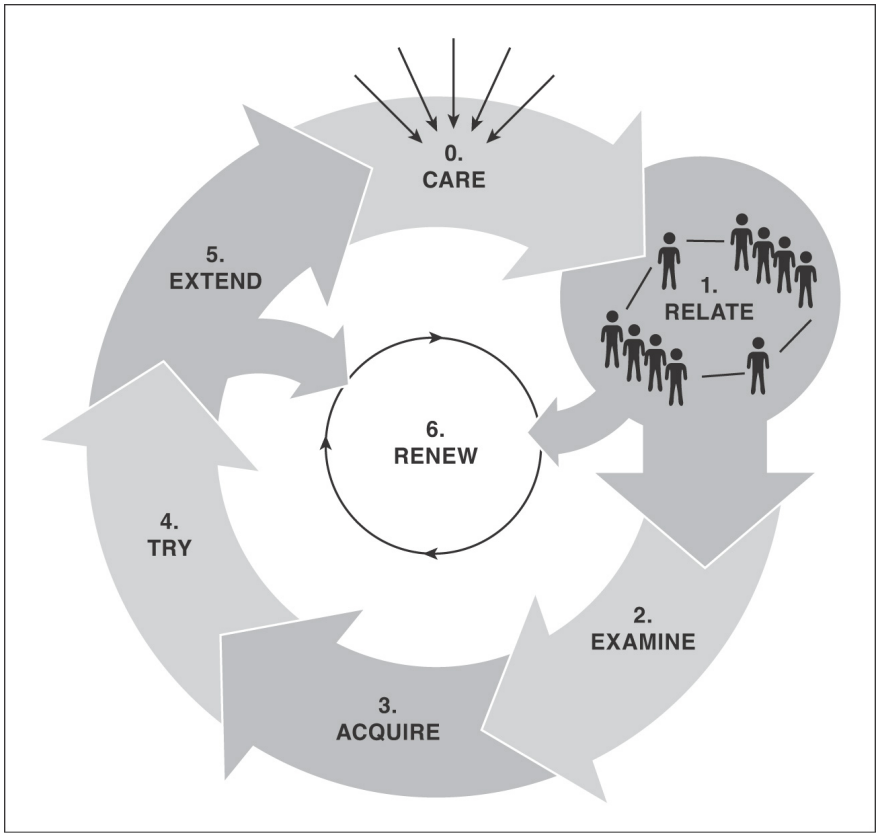
Risk of Violence Flags Monthly Data



Note: Data collected by institution's data collection system called Enterprise Analytics. The data for this figure was obtained by the Nursing Safety Officer who had accessed data prior.

Figure 8

Havelock's Theory of Change



Note: White, K., Dudley-Brown, S., & Terhaar, M. (2016). Translation of evidence into nursing and health care, second edition. In *Translation of evidence into nursing and health care, second edition* (2nd ed.). Springer Publishing Company.

Appendix

Summary of Studies Evidence Table

Author, Title, Journal	Year	Purpose of Study (Describe intervention if there is one)	Variables (Independent and Dependent)	Subjects (population/ sample/sample methods)	Methods (instruments with reliability and validity & analysis & level of evidence)	Findings/Results (Statistical Evidence)	Limitations/Gaps/ Conclusions
Occupational Safety & Health Administration (OSHA). Guidelines for preventing workplace violence for healthcare and social service workers.	2015	Provide guidelines for all sectors of healthcare organizations on programs for preventing workplace violence and evaluation procedures.	N/A	N/A	N/A	N/A	N/A

Joint Commission on Accreditation of Healthcare Organization. Sentinel event alert: Physical and verbal violence against health care workers	2018	Published for JCACHO accredited healthcare organizations notifying of sentinel events and providing guidelines for prevention, also referring OSHA's guidelines	N/A	N/A	N/A	N/A	N/A

Lukens, J. Violence against hospital workers: Growing awareness, rural interventions, and why it still goes unreported. *The Rural Monitor*	2019	Summary of issue, background information, and details on a rural hospital's response to the issue.	N/A	N/A	N/A	N/A	N/A
Phillips, J. Workplace violence against healthcare workers in the United States. *The New England Journal of Medicine*	2016	Article overviewing the issue, background, statistics, violence in varying settings in healthcare, barriers to reporting, characteristics of violent offenders and risk factors, highlights of few studies on one-two interventions,	N/A	N/A	N/A	N/A	N/A

		referencing existing guidelines, long term effects.					
Schub, T. & Karakashian, A. Workplace violence: Assault by patients. *Cinahl Information System*	2017	Brief article on workplace violence, specifically assaults by patients. The article includes background information, how to identify the incident, how to assess the victim, treatment recommendations, and information for the patient/family.	N/A	N/A	N/A	N/A	N/A

Stephens, W. Violence against healthcare workers: A rising epidemic. *American Journal of Managed Care*	2019	Article discussing incidence, types of workplace violence, causes, negative effects, and overview of efforts/initiatives by a state hospital association.	N/A	N/A	N/A	N/A	N/A
Strickler, J. Staying safe: Responding to violence against healthcare staff. *Nursing*	2018	Article written in Nursing journal discussing incidence and gives proactive approaches to intervening on the issue.	N/A	N/A	N/A	N/A	N/A

United States Department of Labor. Guidelines for preventing workplace violence for healthcare and social service workers. *Occupational Safety & Health Administration*	2016	Document published by OSHA discussing guidelines for workplace prevention, highlighting the impact, then providing detailed information on implementation of prevention programs for healthcare institutions. It also provides checklist for institutions to use as well as resources.	N/A	N/A	N/A	N/A	N/A

Occupational Safety & Health Administration (OSHA). Workplace Violence in Healthcare: Understanding the challenge.	2015	Pamphlet highlighting the issue with pertinent statistics. In addition, reference and links guidelines and resources.	N/A	N/A	N/A	N/A	N/A
Durkin, M. Hospital fight back against violence.	2017	Highlights the issue, gives statistics, discusses several articles on violence prevention interventions.	N/A	N/A	N/A	N/A	N/A

Arnetz, J., Hamblin, L., Sudan, S., & Arnetz, B. Organizational Determinants of Workplace Violence Against Hospital Workers	2018	To identify organizational factors contributing to hospital workplace violence. Intervention: conduct a questionnaire survey. Questions involved employees' experiences with workplace violence (in the previous year the study was conducted) and perceptions of the safety climate of the organization.		The study was done at a hospital system in Midwest U.S. with approximately 15,000 employees. 2,010 were identified as being an increased risk of violence. 2,010 questionnaires were mailed, 89 were returned as undeliverable, 446 responded.		Interpersonal conflict was a risk factor for verbal violence. Low work efficiency was a risk factor for physical violence. A poor violence prevention climate was a risk factor for verbal and physical violence.	The study was cross-sectional so unable to determine causality. Low response rate was also a limitation. Lastly, the study was conducted at a single hospital system and may not be generalizable for other hospital systems.

Arnetz, J., Hamblin, L., Essenmacher, L., Upfal, M., Ager, J., & Luborsky, M., Understanding patient-to-worker violence in hospitals: a qualitative analysis of documented incident reports. *Journal of Advanced Nursing*	2015	To evaluate catalysts to and circumstances surrounding patient-to-worker violent incidents recorded by employees in a hospital system database. A qualitative content analysis was done on Type II workplace violence incidents.		214 Type II incidents, over one year, documented by a hospital reporting system were analyzed for content.	A data analyst removed patient identifiers from the incidents before analyzing. Content was used to analyze circumstances surrounding the violent incidents. Codes were assigned for main themes found and were relevant to research objectives. The goal was to create meanings of the themes from complex raw data. One researcher assigned the codes for each identified common theme. A second researcher did the same task separately. Those two met and had an initial consensus level exceeding 90%. Consensus was then reached by the two reviewers and were able to still include all 214 original incidents. A third researcher who was not involved in the original coding reviewed incident	90% of incidents resulted in some form of physical violence directed towards hospital employee; 34% resulted in injuries resulting in loss work time. 39.8% of incidents were reported by nurses, 66.7% were female, had a mean age of 41.4 years, and had been employed for an average of 7.4 years. Three distinct themes were identified that were thought to be major causal factors: patient behavior, patient care, and situational events. Patient behavior (referred to as direct reason for violence) had two subthemes: cognitive impairment and demanding to leave. Patient care encompassed incidents in the course of providing care or working in close proximity to the patient. Three subthemes here including: Needs, pain/discomfort, and physical transfers. Situational events were referred to when patient	Results may have been limited due to underreporting. Results may have been influenced by bias on part of those documenting violent events. It may suggest only incidents with injury are reported as those incidents are required to be reported. Incidents reports are also subjective which is a limitation. Recall bias may have played a role as the incidents must be reported within 72 hours, and 24 hours may have limited recall bias. Reports were only collected from one hospital system and may not be generalizable to all hospitals.

					descriptions and confirmed final themes.	freedom of mobility was infringed upon and had four subthemes: restraints, transitions, intervening, and redirecting. Incidents had descriptions written by reporters of exact quotes from patients and situations which was helpful in categorizing incidents.	
Arnetz, J., Hamblin, L., Russell, J., Upfal, M, Luborsky, M. Janisse, J., and Essenmacher, L. Preventing patient-to-worker violence in hospitals: outcome of a randomized controlled intervention. Journal for Occupational and Environmental Medicine.	2017	To evaluate the effects of a randomized controlled intervention on the incidence of Type II workplace violence and related injury in hospitals. Intervention: intervention units received a unit-level violence data to facilitate development of unit-specific violence		Forty-one units across 7 hospitals within the hospital system were randomized for intervention. 21 received intervention and 20 were control groups.	The intervention was a randomized-controlled intervention utilized a mixed-methods approach and comprised of four phases. 1) development of standardized reports of workplace violence 2) implementation of the hazard risk matrix to prioritize hospital units for intervention 3) randomized intervention 4) intervention evaluation.	A total of 17 of 21 intervention supervisors (81%) returned action plans to the team. One year post intervention, 16 of the 21 (76%) and 10 of the 20 control units (50%) completed the follow up surveys. All 16 of the responding intervention units had implemented violence prevention strategies, compared to the 8 of the 10 responding control units. Six months post intervention, incident rates ratios of violent events were significantly	Study took place in one single hospital system, thus results may not be generalizable to other hospitals. Another limitation was scheduling the on site visit with supervisors and scheduled that around patient care. No walk-throughs were done at night and so this missed hearing perspective from night shift staff. Contamination between control and intervention units cannot be ruled out since several of both

		prevention action plan.				lower on intervention units compared to controls. At 24 months, the risk for violence-related injury was significantly lower on intervention units, compared to controls. There was no statistically significant decreases in event and injury rates over time in the intervention group, the group had significantly lower risks for both events and injuries over time, compared to controls.	were located within the same hospitals.
Weinberger, L., Sreenivasan, S., Smee, D., McGuire, J., & Garrick, T. Balancing Safety Against Obstruction to Health Care Access: An Examination of Behavioral Flags in the VA Health Care System. Journal of Threat Assessment and Management	2018	Discussion of utilization of behavioral violence flags in veterans, implications of the alerts, and alternatives.				Behavioral flags alerting staff of warning of certain patient violent behavior may be helpful in safety alert system in small percentage of cases. However, the flags may be of little value in verbal assault situations and may cause unintended consequences such as patient labeling.	

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