An Update on the Implementation of the Workplace Violence Against Nurses Grant Program

As Required by

Texas Health and Safety Code

Section 105.011

September 2022

TEXAS
Health and Human Services

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1. Introduction

Texas Health and Safety Code, Section 105.011 requires the nursing resource section in the Texas Department of State Health Services (DSHS) to administer a grant program to fund innovative approaches for reducing verbal and physical violence against nurses, to the extent funding is available.

DSHS is required to publish an annual report that describes the grants awarded through the program, including the amount and purpose of the grant, and the reported outcome of the approach used by the grant recipient.

In state fiscal years 2020- 2021, TBON transferred a total of $667,000, over the biennium, to DSHS for grant administration. All applicants provided a detailed explanation of their program or plan, documented how the program would achieve the goals of reducing verbal and physical violence against nurses in their facility and proposed performance metrics for measuring short and long-term outcomes of the program.

The Nursing Advisory Committee, established by Texas Health and Safety Code, Section 104.0155, serves in an advisory capacity for the grant program. The advisory committee created a task force to help develop the RFA and evaluate applications.

Fourteen entities submitted proposals and DSHS selected the following seven entities for award. The seven awarded entities proposed a broad range of potential uses for grant funds including training on workplace violence prevention, equipment and staffing support. The seven entities awarded $699,999 in grant funds were:

- Baptist Hospitals of Southeast Texas
- Baylor St. Luke's Medical Center
- Houston Methodist Hospital
- Parkland Health and Hospital System
- Texas Children's Hospital

- University of Texas Health Science Center – Harris County Psychiatric Center -Cizik School of Nursing
- University of Texas Medical Branch Galveston

Six of the seven original awarded grantees carried out their projects through the end of the grant term. One grantee reported being unable to complete the grant program due to barriers created by COVID-19. DSHS redistributed a portion of these funds to two grantees who applied for additional funding. The total award amount for the remaining six grant recipients was $571,666.

DSHS required grant recipients to provide interim project reports describing expenditures and progress on the implementation of their project, including proposed performance measures. In addition, each grantee submitted a final project report, which are included as appendices A-F of this report. The impact of COVID-19 affected grant recipients' ability to implement their projects as planned. Therefore, DSHS extended the August 2021 deadline to April 2022. The grantees expended $476,376.50 of awarded funds.

2. Grant Award Projects and Outcomes

Table 1 provides detailed information about each of the seven grant awardees.

Table 1 - Grant Recipient Information

Grant Recipient	Initial Award Amount	Revised Award Amount	Amount Expended	Grant Use
Baptist Hospitals of Southeast Texas	$20,000	$19,250	$19,250	A Workplace Violence (WPV) Task Force was formed to educate staff and the patient community about the hospital's zero-tolerance for WPV, and cameras and monitors were purchased.
Baylor St. Luke's Medical Center	$143,386	$0	$0	N/A
Houston Methodist Hospital	$130,991	$173,282	$172,149.84	Funds were used to create a tool to proactively identify patients at risk for disruptive behavior; implement video cameras; creating a de-escalation learning module for some nursing staff; and develop virtual reality which provides the nurse

Grant Recipient	Initial Award Amount	Revised Award Amount	Amount Expended	Grant Use
				real-time feedback on the decisions they make and offer suggestions to improve safety in active shooter "safe" virtual scenarios.
Parkland Health and Hospital System	$83,400	$81,357	$58,505.40	Funds were used for data reporting to increase verbal event reports, enhance the current WPV system and implement peer support groups, purchase additional alarms for nurses, and expand previously developed courses on WPV to be offered at local community colleges.
Texas Children's Hospital	$179,979	$175,559	$143,215.76	Funds were used to implement an application-based monitoring and alert system, a WPV response team, and an individualized, asynchronous training program focused on prevention of WPV.

Grant Recipient	Initial Award Amount	Revised Award Amount	Amount Expended	Grant Use
University of Texas Health Science Center – Harris County Psychiatric Center	$83,399	$96,954	$81,492.80	UT Health Science Center used funds to implement Trauma-Informed Care (TIC) practices on two pilot units and measure specific outcomes on direct care psychiatric nursing staff, and they aimed to decrease seclusion/restraints events, reduce staff reported adverse work events, and increase patient-reported sense of safety.
University of Texas Medical Branch Galveston	$25,844	$25,264	$1,762.70	UTMB used the funds to implement their CEASE program which proposed using communication, emotional and social intelligence, art, and ethics to stop workplace violence and compassion fatigue in healthcare workers. Funds were exclusively expended on salary and wages for the

Grant Recipient	Initial Award Amount	Revised Award Amount	Amount Expended	Grant Use
				team member focused on ethical rounding.
Total	$666,999	$571,666	$476,376.50	

3. Conclusion

In accordance with Texas Health and Safety Code, Section 105.011, DSHS administers a grant program to fund innovative approaches for reducing verbal and physical violence against nurses.

In state fiscal years 2020-2021, TBON transferred a total of $667,000, over the biennium, to DSHS for grant administration. Subsequently, DSHS awarded $666,999 to seven grant applicants. Recipients were to implement workplace violence reduction strategies from April 2020 to April 30, 2022. After contract revisions necessary because of COVID-19, the following six hospitals were awarded $571,666. These grantees expended $476,376.50, or 83.8 percent, of awarded funds.

- Baptist Hospitals of Southeast Texas
- Houston Methodist Hospital
- Parkland Health and Hospital System
- Texas Children's Hospital
- University of Texas Health Science Center – Harris County Psychiatric Center-Cizik School of Nursing
- University of Texas Medical Branch Galveston

Grant recipients primarily used funds for training on workplace violence prevention strategies; to purchase hardware and equipment to bolster workplace violence prevention initiatives; and to pay salaries and wages of staff and contractors. Projects were implemented in a variety of hospital settings including emergency departments, intensive care units, mother/baby units, psychiatric units, and prison units. Each of these environments present unique challenges for nurses, leading to diversity in approaches by grant recipients.

All grantees were successful in implementing programs to prevent workplace violence against nurses despite the challenges experienced due to COVID-19. Programmatic changes and unforeseen barriers to implementation resulted in unexpended grant funds.

List of Acronyms

Acronym	Full Name
COVID-19	Coronavirus 19
DSHS	Texas Department of State Health Services
RFA	Request for Applications
TBON	Texas Board of Nursing
WPV	Workplace Violence

Appendix A. Final Project Report as submitted by Baptist Hospitals of Southeast Texas

Executive Summary

Baptist Hospitals of Southeast Texas (BHSET) is a 400-bed community healthcare system located in Beaumont, Jefferson County, Texas and serves an eight-county region. The hospital campus is in a low-income area of the City of Beaumont and is the leading provider of inpatient behavioral healthcare in this region. In addition, Jefferson County is home to not only a county jail, but state and federal prisons.

The area has in the last 5 years been hit hard with major hurricanes and floods which contribute to the poor living conditions of those living in this region. And crime is high and mental health issues on the rise. All these factors create an environment where nurses are exceedingly vulnerable to violence.

The goals were to create a Workplace Violence Task Force, survey the scope of the problem, dive into the data, educate staff and the patient community of zero tolerance for violence, improve reporting of violent and threatening incidents, and improve post-incident reviews and actions to prevent additional events.

BHSET was well on its way to completing the goals of the project when the COVID-19 Emergency Declaration within the BHSET system derailed the progress.

A Workplace Violence Task Force was formed, and nursing staff were surveyed to understand their perception and experiences with workplace violence at BHSET.

Annual education modules were reviewed based on the survey findings and found to be sufficient. Additional training and focused group meetings were postponed. Focused review of reported incidents went forward with post-incident reviews and actions taken to mitigate incidents in the future. And signs were placed in key locations for the patient population to understand BHSET's zero tolerance for violence against staff.

In addition, much needed cameras and monitors were purchased and installed in key areas to stop or catch offenders with early notification and response.

The evaluation of the success of the project was measured in number of reportable events. When the grant proposal was submitted, 70 events were recorded for the previous year. During the grant period, June 30, 2020 to April 30, 2022, there were

only 23 incidents reported. It is the Workplace Task Force's determination this reduction cannot solely be attributed to the actions of the Task Force because COVID-19 complicated the environment, the staff expectation and acceptance of patient and co-worker behavior, and the staff reporting of incidents of workplace violence.

However, the groundwork has been completed and the reduction of workplace violence against nurses has been made a key initiative in BHSET's Nursing Strategic Plan FY23.

The initial grant awarded was $20,000 to BHSET with a revised award of $19,250. BHSET is grateful for this award and the opportunity to work with DSHS and observe what larger hospitals and systems are doing to stop workplace violence against nurses. BHSET was able to apply $19,250 of the grant to purchase cameras and monitors to cover blind spots in secured areas.

BHSET has identified next steps to further address and prevent workplace violence against staff. These steps have been incorporated into the Nursing Strategic Plan FY2023. Continuing to move forward in bringing attention to the presence of workplace violence and protecting staff will be a priority of administration and the governing board.

Report Narrative

Project Description

BHSET made a commitment to form a Workplace Violence Task Force to survey nurses to determine the prevalence of workplace violence in the system. This task force was tasked with identifying areas of concern expressed in the survey and developing a list of priorities identified that could mitigate the occurrence of the incidents. In addition, the task force was to educate the staff on the importance of reporting incidents and how addressing the risks to the staff was a priority of Administration and Board of Trustees. Simultaneously, the task force would inform the patient and community of BHSET's zero tolerance for the violent physical and verbal actions against staff by appropriate signage. The task force would place cameras, monitors and security personnel where identified. Finally, the Task Force would monitor the reporting of incidents for trends, including frequency and type of incidents.

Implementation Methodology

In February 2020, the Workplace Violence Task Force formed with the first order of business to conduct a survey of front-line staff to determine if they experienced workplace violence, if they reported the incident, and what they felt they needed to respond or avoid incidents of workplace violence. 299 employees and volunteers responded in March 2020.

51% of the respondents were bedside nurses and nurse practitioners with an additional 28% other clinical, including off-site locations and technicians. The remaining respondents were non-clinical and volunteers in patient service areas.

38% of the respondents stated they had not experienced workplace violence. Of those that stated they experienced such, only 50% reported the incidents either formally or informally. 70% of all respondents stated they were instructed to report incidents of workplace violence.

It was encouraging to see that only 31% of all the respondents felt workplace violence was part of the job. Yet, it is the position of BHSET that workplace violence is not a part of the job and will not be tolerated.

Additional information was gained from the survey such as on a scale of 1 to 10, the respondents felt they were prepared to respond at a level of 7.1. They felt security's presence in preventing incidents was effective at a level of 5.9.

58% of all respondents stated they received training on response and prevention of workplace violence in the last 12 months. An additional 19% received the training greater than 12 months from the survey. 23% stated they had not received any training to prevent workplace violence.

In April 2020, the Workplace Violence Task Force brainstormed solutions and prioritized actions, considering internal and external factors to mitigate the risks.

It was at this point BHSET declared its pandemic emergency and resources were directed to addressing COVID-19. It was reported in the June 2020 interim report the plan to resume the project July 1, 2020.

The Task Force identified steps that could be taken that did not use the resources deployed for COVID-19. Signs were designed, ordered, and placed to communicate BHSET's zero tolerance for workplace violence. Employee annual education regarding avoiding and reporting incident of workplace violence had been reviewed

and no changes were needed so this mandatory module was assigned with over 90% compliance in completing. It is important to note this education is assigned each May and must be completed before their individual performance evaluations. This will be continued as part of the sustainability plan.

The coverage of the security cameras was evaluated, and low visibility areas were identified. A total of five cameras were ordered, installed with additional monitors for security personnel. The first set of cameras were acquired in November 2020 with additional equipment acquired in February and September 2021. Cameras were installed in parking lots near the building, ICU waiting areas, as well as surgery entry ways. Plans are in place, including financial assets, to place additional cameras in ICU and medical surgical unit common areas as part of the sustainability of this project.

Incident reporting remains a daily priority with workplace violence incidents escalated to Nursing Administration and appropriate executive leadership for response, including caring for the victim and preventing similar events from occurring in the future.

Project Goals and Evaluation

Some of the goals were met and the remaining have been included in the Nursing Strategic Plan FY23. The goals were to create a Workplace Violence Task Force, survey the scope of the problem, dive into the data, educate staff and the patient community of zero tolerance for violence, improve reporting of violent and threatening incidents, and improve post-incident reviews and actions to prevent additional events.

The Workplace Violence Task Force was formed and has now been incorporated into a Nursing Strategic Plan committee. A survey was conducted to identify the scope of the problem but should be repeated to determine if there has been a change. The information gained from the survey was studied and should be compared with the results from any follow-up surveys. The staff participates in an annual education blitz covering response to and reporting of incidents. This should be continued. However, specialized training in de-escalation should be made available to staff in high-risk areas such as emergency room, ICU and Mother Baby units.

The reporting of incidents related to workplace violence decreased. When the grant proposal was submitted, 70 events were recorded for the previous year. During the grant period, June 30, 2020 to April 30, 2022, there were only 23 incidents

reported. This could be associated with the pandemic and the staff's acceptance of disruptive behavior or could be attributed to a true decrease in such behavior as result of actions taken. This will continue to be monitored and reported for discovery purposes.

It may be necessary to have a separate reporting tool for reports of workplace violence. This should be reviewed as part of the sustainability plan and the Nursing Strategic Plan FY23.

Impact

This project was impactful in bringing attention to workplace violence against nurses and other hospital staff at BHSET. Eradicating workplace violence is not only important but required in a market where nurses are leaving the practice or not entering the practice. Quality patient care depends on a culture where everyone feels safe.

This project impacted the level of security provided to our staff and the understanding of how staff can stop this crippling culture of accepting bad behaviors as part of the job. It brought this subject back to the attention of administration and governing board.

This initiative is not complete until there are zero incidents of violence or threat of violence against nurses and hospital staff and will continue to be a pillar in the strategic plan.

Lessons Learned

As noted in the above narratives, it was encouraging to hear most were trained on response and avoidance of workplace violence and reported incidents. However, it was not surprising to hear the perception of security. This must be addressed.

Sustainability

BHSET has made safe workplace and reduction of workplace violence as a pillar in the Nursing Strategic Plan for FY23. A more formal vehicle for evaluating, addressing, and monitoring incidents is part of this plan. The strategic plan will be monitored by administration and governing board.

Budget

The entirety of the budget of $19,250 was spent on cameras, hardware, and installation. The original submitted plan including SAMA training but that was not included in the revised budget. Training at this level was not possible with staff responding to COVID-19 emergency response. In addition to the grant, BHSET invested $5,888 towards this initiative.

Appendix B. Final Project Report as submitted by Houston Methodist

Executive Summary

Houston Methodist (HM) is committed to providing a safe, healthy, and positive work environment where nurses deliver patient and family-centered care that is aligned with the Houston Methodist ICARE Values of Integrity, Compassion, Accountability, Respect and Excellence. HM implemented a Workplace Violence (WPV) prevention program in May 2019 to enhance awareness of WPV and promote prevention efforts leading to a safer work environment. Through a gap analysis, it was revealed that nurses are not reporting incidents of disruptive behavior of patients and when reporting incidents, often do not receive follow-up which may undermine the nurse's resilience and lead to burnout.

With this grant, innovative ideas and solutions were initiated to reduce WPV by identifying patients at risk for violent behavior using a validated assessment tool (ABRAT) and integrating it into our existing electronic medical record (EMR) documentation system and by reinforcing the nurse's ability to recognize, prevent and respond to WPV incidents, specifically an active shooter, using innovative technology through augmented and virtual reality training. This training re-envisions clinical education to focus on competency development and muscle memory simulation in a safe environment to practice clinical skills. An immersive environment is ideal using gaming headgear and goggles so the "real world" is blocked, and the nurse can fully engage in the scenario and experience.

The funds for the grant were used for four different projects: utilizing a validated, reliable nursing assessment tool proactively identify patients at risk for disruptive behavior; implementing a video monitoring system for an entity for high risk disruptive patients; creating a de-escalation learning module for nursing staff not required to complete a nonviolent crisis intervention training course; and developing and using virtual/augmented reality which provides the nurse learner real-time feedback on the decisions they make and offer suggestions to improve safety in active shooter "safe" virtual scenarios.

COVID-19 was a continuous barrier to our implementation efforts throughout the entire project timeframe. We started and halted all projects five times due to the COVID-19 surges. Given the focus of many of the projects requiring nursing staff involvement, patient care and safety were the priority over training and

participation. Another challenge was the higher-than-normal staff turnover, related to COVID-19. We would start training for a portion of one of the projects, a surge would occur, staff would resign or transfer, new staff would be hired then we would start the process all over again. Supply chain issues/delays during this time also impeded the progress of our VR project.

Despite these setbacks, Houston Methodist did complete most of the various projects. Those that were not fully implemented are still in process and are scheduled for completion within 90 days as of this report. Several of our successful accomplishments to enhance workplace safety and reduce/prevent workplace violence included the development and rollout of a de-escalation skills training module, implementation of a risk behavior assessment tool in our EMR documentation tool at two of our entities, the purchase of tele-sitter monitoring units, the creation and implementation of an augmented reality program reinforcing muscle memory during an active shooter event - applying digital elements to a live, real-work environment through an iPad, the design and development of a virtual reality Active Shooter Program - a 3-dimensional image of the environment that the nurse works in, utilizing special goggles to react to different scenarios based on what they had learned in the AR program.

We plan for all these projects to be sustained going forward. We will be rolling out education and the ABRAT tool to the remaining six entities. With the system enterprise agreement signed by the vendor, we will be utilizing tele-sitter monitoring devices at all our entities, implementing them in a phased approach. The project that has garnered the most interest and excitement at Houston Methodist is the AR and VR program. We will be providing demonstrations to our executive leadership for them to experience the environment. We would also like to create the active shooter scenario in different departments, i.e., med/surg, women's services, operating departments, for each of the entities. We believe the value of proactively providing training like this will increase staff comfort with being able to react to this type of situation, should it ever occur.

All the funds we were awarded were fully utilized. While there is no definitive measure of preventing workplace violence incidences or injuries, each of our projects ensures continuous improvement of safety awareness and workplace violence prevention for our nurses.

This is an exciting time for Houston Methodist. As an innovative, healthcare leader for being a catalyst for movement and change, this grant funding created innovative activities and heightened awareness and prevention of the W+PV

national trend. Houston Methodist is committed to providing ongoing financial and personnel resources, not only for the changes that may be required to support these programs that facilitates the changes in work processes and procedures required to minimize the risk of WPV but for future innovative activities that assist in keeping our nurses safe.

Report Narrative

Project Description

In each of the following sections, projects will be defined using the alphabetical system: a) = the ABRAT project; b) = Tele-sitter monitoring project; c) = De-escalation training module project; d) = AR and VR project

HM researched an assessment tool to find possible options for available valid, reliable tools for nurses to proactively determine patients at risk for violent behavior. The team chose a valid, reliable tool known as the Aggressive Behavior Risk Assessment Tool (ABRAT) for the medical-surgical areas. Authorization to utilize this tool in this clinical setting was received by the tool designers.

The team originally planned to utilize a tele-sitter monitor system to monitor patients with a score of a 2 or greater on the ABRAT; but, due to the COVID-19 pandemic, the capacity of tele-sitter monitors was low as they were in use for patients deemed at high risk for falls. However, the introduction and use of the ABRAT alone did show a reduction in nurses' workplace violence injuries. By pro-actively identifying patients at risk for disruptive behavior, this prevented violence against nurses because nurses took precautions with patients scoring high on the ABRAT tool.

COVID-19, leadership changes and contract/legal work subsequently placed time restrictions on implementation of the tele-sitter monitoring units. While waiting for the system enterprise contract to be signed (this turned into an HM system initiative), HMB created a Tele-sitter Committee who developed an algorithm/workflow process. Roles and workflow were developed along with appropriate & convenient storage of the machines. Education training was implemented for existing employees as well as new employee orientation (NEO) with education sheets & check-off in nursing binders.

HMB plans to implement the purchased remote, mobile tele-sitter monitors in the med/surg/critical care/emergency departments, scheduled May 25, 2022. The

Aggressive Behavior Risk Assessment Tool (ABRAT) will assist staff to recognize patients within the facility that may exhibit aggressive behavior during their stay and require additional resources. Utilizing the tele-sitter monitor, a technician observes patients for behaviors indicative of escalation and once noted, will immediately notify the nurse and possibly security (depending on the specific behavior). The technician will voice into the patient's room to speak to the patient using therapeutic communication skills. By monitoring the patient that has been identified as potentially violent to staff and alerting the nurse, healthcare team, and security prior when high risk behaviors are recognized, the team is kept safe and are not blindly entering the room unaware that the patient's behavior is at high risk for violence.

The de-escalation training video was designed to enhance Workplace Violence Prevention efforts. Being able to de-escalate certain situations is a valuable tool to help reduce verbal and physical violence in the healthcare facility. Over the past year, we have designed and produced a de-escalation training module that is applicable to everyone that works at Houston Methodist. This course provides viewers with introductory techniques aimed towards mitigating escalating behaviors and how to respond and react to these incidents. The course can be found and is self-assigned through the Learning Management System (LMS) on Employee Self Service portal by searching for course name. The online course video takes approximately 18 minutes to complete.

HMSL and HMW implemented an Augmented Reality (AR) Program and will also soon implement a Virtual Reality (VR) Active Shooter Prevention Program in the Emergency Department (ED). AR assists with gaining muscle memory to increase success in the event of an active shooter. VR provides a 3-dimensional image of the environment that the staff member works in, utilizing special goggles to do what they had learned in the AR program. The two scenarios will simulate both an external source as the shooter and a former employee who knows the layout of the department.

HMSL and HMW began the journey to use technology to prevent workplace violence and help Emergency Department (ED) nurses prepare for an active shooter event. Based on a literature search, the majority of workplace violence incidents happen in the ED. The AR/VR program has morphed during development, due to multiple COVID-19 surges delaying staff participation and filming of the facility. The AR program that was implemented consisted of two scenarios that the ED staff utilized to determine their actions in the event of an active shooter. The AR training was conducted on an iPad that the staff use while walking through the ED, following a

route based on their chosen action when encountering an active shooter. Both programs complement the Active Shooter training which HMSL and HMW staff previously went through annually.

Implementation Methodology

Two sites were utilized for the grant period. HMWB identified two medical/surgical units who consistently utilized the ABRAT tool and showed a reduction of nurses' workplace violence injuries. The organization was unable to utilize the tele-sitter monitor for patients scoring a 2 or greater on the ABRAT as originally planned due to the capacity issues with the COVID-19 pandemic. The units identified at HMH were medicine unit which would benefit from the use of the ABRAT tool. However, due to the COVID-19 pandemic, was unable to participate in this initiative as these units were migrated to COVID-19 units, thus not needing video monitoring. Education was provided to both teams. The ABRAT tool was, whenever possible, and still is being utilized at both campuses.

The success of this project at HMWB was the increased awareness of those patients flagged as showing signs of disruptive behavior. While the actual monitoring units may not have been used in every situation, nurses proactively took steps to ensure their safety when entering a flagged patient's room.

Two phases were identified, due to COVID-19 surges, ABRAT and Tele-sitter implementation. In early 2021, the HMB work group was developed within the organization. Cost(s) were reviewed, and equipment was purchased. COVID-19 surge(s) continues to affect the roll-out of the machines. HMB formed a Tele-sitter Committee which included operational leaders and IT. These meeting took place bi-weekly & moved to monthly as the year(s) progressed. HMB also met with System leaders to discuss development of the local & system policy/procedures.

Discussions occurred for appropriate nursing documentation placement within the EMR for the ABRAT. The group agreed the complex assessment had the appropriate verbiage of video camera to accommodate &/or fulfill this requirement. Algorithms continued to be shared with staff along with HMB Staff Roles. To build awareness, in early 2022, development of the ABRAT flyers, *"Coming Soon",* approval of inclusion/exclusion criteria, EMR workflows for paperless orders built for implementation & go-live March 1, 2022, and hiring Patient Observation Technicians occurred. Successful rollout of ABRAT with 100% compliance of identified units ensued. Data is being collected, analyzed, and trended.

In April, the enterprise tele-sitter contract was signed and a go-live date established, May 26, 2022, based on vendor availability. An education plan was discussed with the scheduling areas/departments/employees. IT has been notified of tentative plans for equipment assembly & deployment to take place on May 10, 2022. An audio/virtual room has been identified to offer safe, in-person education sessions and/or online. Web-page access was discussed with the group regarding the availability of placing or mapping the vendor network link on HMB website.

One of the barriers/successful resolutions we encountered was feedback on the draft Tele-sitter report that was shown to group; they were concerned it is an extra paper for a nurse to fill-out. Form needs to also reflect vendor system integration. Discussions on updates to mirror vendor system took place. HM system leadership suggested once approved, it will be laminated, posted on the monitor as a reminder to nursing when calling in "things", to be prepared to give information to monitor staff.

Over the course of the project timeline, scripts and a production company were assigned to film five scenarios that would address a typical de-escalation event that an employee could face at the hospital. Filming took place over the course of four days with strict health, masking, and social distancing guidelines in place to ensure safety for all participants. Filming and photography edits took several weeks to complete with a final video in place to meet the January 1, 2021 goal.

Beginning in October 2019, HMSL conducted a literature search to identify best practices to use technology to prevent workplace violence and ED nurses prepare for an active shooter event. The literature revealed using augmented reality (AR) and virtual reality (VR) are two technology choices to help nurses build muscle memory for decision-making.

July 2020, HMSL formed an ED workplace violence prevention workgroup whose purpose was to explore the use of technology to educate ED nurses about workplace violence prevention, especially what to do in the event there is an active shooter or aggressor in the ED. Workgroup membership consists of one ED dayshift charge nurse, one nightshift clinical nurse, Security manager, director of Clinical Education and Magnet, Emergency Department dayshift manager, Emergency Department nightshift manager and a member from local Police Departments. This workgroup reviewed the five types of workplace violence, HMSL workplace violence prevention policies, and the HMSL Active Shooter policy

The two ED clinical nurses created two scenarios for potential active shooter events and identified the ambulance bay and main ED entrance as the most likely entrances an active shooter would use to gain access to the ED. Using the HMSL Active Shooter policy as a guide, the ED nurse incorporated the policy language, "avoid, deny, defend" into the scenarios. ED workgroup met with two members from the local police departments to review the ED active shooter scenarios and receive the police officer's feedback. We created a map of the ED and worked through a table-top exercise using the two active shooter scenarios. Permission was obtained to use a validated tool to measure self-efficacy once the AR/VR exercises were built and the technology available to help ED nurses incorporate avoid, deny, defend into their response to an active shooter event. In October 2020, HMSL hosted a CRASE course taught by local PD. The HMSL ED WPV prevention workgroup members attended this CRASE course. Progress on this project was halted after that due to the COVID-19 surge.

During first and second quarters 2021, the HMSL WPV prevention workgroup met with the vendor to schedule 3D mapping of the HMSL Main Emergency Department which is the foundation for creating the AR/VR simulations. iPads and computers with gaming components were ordered and a pilot group of nurses trialed one AR scenario using the QR codes. Two additional CRASE courses were offered in May and October 2021. COVID-19 surges prevented any initial AR training in the ED during the fourth quarter.

We reactivated the AR program in January 2022 with the ED workgroup reviewing the AR exercise and creating pre-intervention self-efficacy and post-intervention self-efficacy questionnaires based on the Learning Self-Efficacy Scale for Clinical Skills 12-item survey. QR codes placed in strategic locations in the ED were created for the pre- and post-intervention questionnaires for ease of use. A training event was held in March with the ED WPV prevention workgroup to train them on process for completing the Active Shooter AR exercise. Eighteen ED clinical nurses completed the Active Shooter training in April, including the AR exercise. This exercise is now incorporated into the onboarding process for new ED clinical nurse hires.

After receiving the additional funds, in June 2021, the HMW Project Team was formed, and meetings scheduled. Discussed scheduling the two 4-hour CRASE training with the local County Constables Office. Proposal for VR build was initiated which included two scenarios for the HMW Active Shooter AR program. The scenarios were for the actual build of the software that the staff would use to walk-through the HMW ED during the AR Training session. HMW ED and Cinco Ranch

Emergency Care Center (CRECC) floor plans mapped, determining potential exits, defense items and pathway for the active shooter AR program build. Our IT partner conducted a scanning of the rooms in the HMW ED and CRECC for the AR/VR build, during time of least patient activity. One of our initial barriers was our IT Security determined the AR training software would not be able to be loaded onto the iPads, due to potential issues with Protected Health Information. We resolved the issue by building the AR on a third-party app to be authenticated and validated, for the AR to be accessed and played.

Fourth quarter 2021, despite the ongoing COVID-19 surge, HMW ED leadership conducted a walkthrough and determined placement of QR codes within the Emergency department. In January 2022, we began CRASE Course training. Due to multiple setbacks 2021, staff turnover and COVID-related, the project team decided to use the Houston Methodist Active Shooter education video in lieu of CRASE, to ensure completion of the project in a timely manner and for staff to hear the same elements previously taught (Run, Hide and Fight). The AR scenarios were built on the elements for both the CRASE course (Avoid, Deny, Defend) and HM training (Run, Hide, Fight). The AR app was loaded and "Active Shooter Learning Self-Efficacy Scale for Clinical Skills" Forms A-C onto the two iPads. An AR training process was created with steps that the ED staff (nurses and technicians) completed:

- Step 1—Completion of "Active Shooter Learning Self-Efficacy Scale for Clinical Skills—Form A"
- Step 2—Completion of Houston Methodist Active Shooter education video
- Step 3—Completion of "Active Shooter Learning Self-Efficacy Scale for Clinical Skills—Form B"
- Step 4—Completion of Active Shooter Augmented Reality exercise
- Step 5—Completion of "Active Shooter Learning Self-Efficacy Scale for Clinical Skills—Form C"

After much anticipation, in second quarter 2022, the AR Active Shooter education program began in the HMW ED.

Project Goals and Evaluation

Our goal for the utilization of the ABRAT screening tool was met. As outlined in the table referenced above, we had an approximate 81% reduction of Type 2 workplace violence incidents, post intervention period. As we discovered, using the tool created a significant awareness of potential disruptive patients among nurses when they scored two or higher and the chart was flagged with a purple alert banner which ties to one of our safety codes, Code Purple, violent behavior. The EPIC banner was an additional initiative created as part of this project as well.

The goal for HMB was to reduce the number of workplace violence injuries by implementing video tele-sitter monitoring. Due to the various challenges, this goal was partially met. While the implementation of the tele-sitter monitors is scheduled for May 25, 2020, in preparation for that date, 94% of nurses and nurse leaders completed the de-escalation module at HMB which was a great accomplishment given the COVID-19 challenges. In addition, within the past 60 days from implementation, the utilization of the ABRAT tool was completed of which 183 individual patients scored 2 or higher, thus creating increased safety awareness, indirectly reducing the risk of workplace violence injuries.

The goal of this project was to reach nurses throughout the Houston Methodist system (also applicable to all staff). The original plan was to identify and train six employees that would be dedicated for CPI Non-violent Crisis Intervention instructors. Due to restraints of training personnel in group settings from the COVID-19 pandemic, instructor classes were not available for the time period we had originally scheduled. As a result, it was decided to utilize grant and hospital resources to direct and produce our own instructional video that would leverage our current instructor staff as actors in the film.

The two outcome goals that were chosen for the HMSL and HMW AR/VR project were to improve front line ED nursing staff de-escalation skills at HMW and improve RN self-efficacy through participation in virtual/augmented reality immersive scenarios based on the 5 types of WPV.

Even with the COVID-19 constraints, HMSL was able to recruit 30 RNs to participate in the active shooter pre-intervention questionnaire, video, and AR exercise. Eighteen RNs completed all the required elements which included completing the pre-intervention self-efficacy questionnaire, watching the active shooter video, completing the AR exercise, and completing the post-intervention self-efficacy questionnaire. As shown on the chart below, eight out of the 12

questions showed greater than 20% improvement in the post-intervention self-efficacy scores for "strongly agree" and all twelve questions showed an improvement in the post-intervention self-efficacy score for "strongly agree".

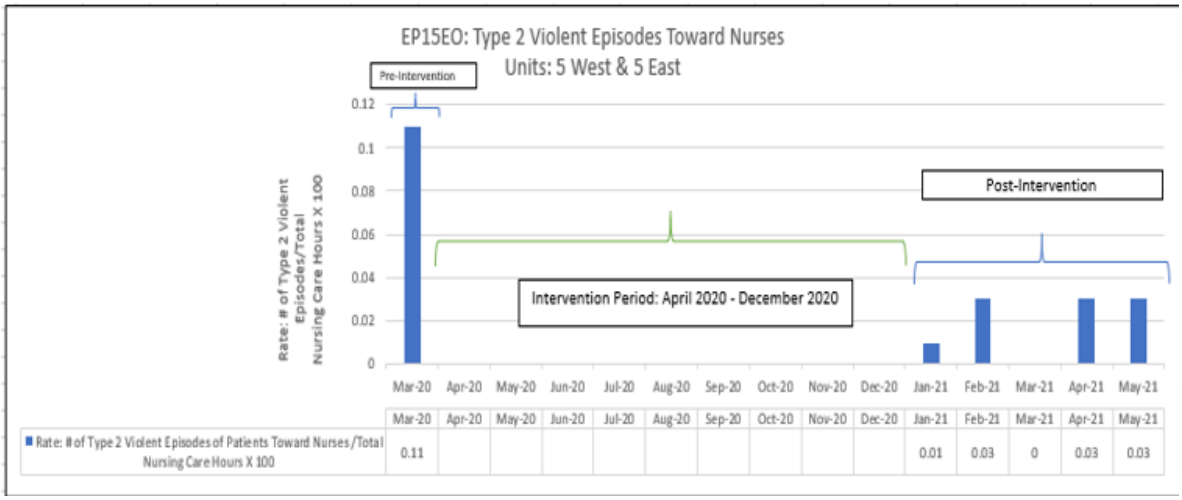
For HMW, the AR Training was completed in April 2022. In preparation for the implementation of VR, de-escalation skills training has been assigned to staff utilizing the de-escalation video. VR implementation was delayed due to COVID-19 constrictions but is expected to begin within 60 days. The future VR training will include a component to score the nurse on individual basis.

Staff were scored on the AR program as "pass" or "fail". Staff who failed on the first attempt continued throughout the scenario until they were successful. When compared to the pre-survey scores (prior to HM Active Shooter education video and performance of AR scenarios), the ED nursing Self-Efficacy scores increased between 10 - 26% for "strongly agree" for every statement below, after performing the AR activity, as shown in the chart below.

Although completion of the surveys, video and AR was considered mandatory by the ED Leadership (McCall, Brown and Kollmansberger), 53.42% completed the process at the time of this report, slightly lower than expected due to turnover and the multiple COVID-19 surges.

Impact

1. On our two pilot units at HMWB, this project utilizing the ABRAT tool had a significant impact on the reduction of workplace violence. The graph below illustrates the reduction in workplace violence on these two units.



2. Although HMB has not been able to deploy the remote monitors as expected, building awareness has greatly improved by activating the ABRAT in EPIC, FACT sheets on violence and continuing of implementation of the TAPs system (a patient safety reporting tool) with education to staff on proper usage, along with the successful rollout of the de-escalation training module.

3. As the video was made available to all staff within the system, this video has the potential to reach and impact employees across all hospitals within the organization. To date, over 2,700 views have been recorded, 37% which have been nurses.

4. The introduction of the AR training has increased staff awareness on the reality of a potential active shooter in the ED. Staff are more in tune to their reactions and environment, if the event were to occur. Since AR training occurred during the month of April, trended post-data is not available at this time.

Lessons Learned

1. Many of the issues that arose during the portion of the project were directly related to the impact of the COVID-19 pandemic to include the lack of availability of the Tele-sitter monitors due to capacity. The primary lesson learned is related to the ongoing sustainability with the team members. It is important to establish check-ins with the leaders to debrief, regarding the success of the project (especially when units being utilized for the project necessitate change).

2. When this project for the grant was initiated for our pilot entity, Houston Methodist identified a *system* need for video monitoring of disruptive patients was recognized. This led to involvement of all seven entity CNOs as well as IT and Risk/Legal departments involvement of an enterprise contract. Communication may have been fragmented due to the system organization with multiple locations/HUBs. Several of our solutions to improve future efforts include creating consistent communication by inclusion of required parties; developing a Tele-sitter distribution email to assist with closed loop communication; ensuring the vendor also communicates with the project lead on plans for implementation by inclusion; placing a link on the entity webpage to allow accessibly for staff instead of saving as favorites on webpage due to staff may use different network computers/locations

3. Some lessons learned were realizing the challenges and thorough planning needed to film and produce the video. From gathering actors, writing scripts, and determining spaces to film without violating and privacy rights, the whole process took many hours of planning to complete.

4. One of the most significant lessons learned was the development of a new software technology does not always go as planned. Cost and time for development is fluid and not concrete. One issue encountered was that loading of a new software on HM device requires IT Security approval, due to lack of authentication. This unexpected issue led to the inability to move the project forward and a lengthy delay, since the developer had to re-design the software to accommodate for this issue.

5. Equipment for gaming devices is much more expensive than the average computer system. The computer system that was ordered for the project had

to be upgraded to gaming-level memory, which unexpectantly increased the cost.

6. Unexpected staffing issues can arise, delaying the project. Although it is unreasonable to predict that a pandemic will arise, holidays, frequent vacation periods, and other times when staffing can become constrained, careful thought to the staffing needed should be given when creating the project timeline.
7. One notable finding was that some of the surveys had the exact same responses for the different stages of the process. The concern is that the requirement for nurses to participate may have led to inaccurate results.

Sustainability

Data collected reflects ongoing sustainability.

1. After the education & deployment roll-out, HMB will continue the HMB Telesitter Committee working group. This will serve as a link from HMB-to-system. A troubleshooting IT phone number will be placed in machines and machines will be tagged with locators to ensure not being misplaced.
2. In addition, Operations Administrators (OAs) will have responsibility to sign-in/out machines since the OA is the house supervisor and has insight of the working daily operations and needs. Patient Care Assistants (PCAs) will continue to be the driving force to assist with cleaning/retrieval/return and ensure connectivity once a patient is identified. PCAs will continue to be included in the monthly meetings along with the OAs & Nurse Managers.
3. Houston Methodist has achieved this project with the de-escalation training module that is self-sustaining as it is available (for free) to assign and view through our system-wide, online learning management system.
4. The VR platform will continue to be used for annual training of all HMW emergency nursing staff and for new employees. Upon attaining additional funds, the AR platform will be upgraded to include three new scenarios, the ability for staff to change their actions during the scenario. A database will be built for the AR training for an annual fee.
5. Our plan is to roll these AR and VR program throughout HMW and, eventually, the entire HM System. An additional measure of success would be workplace violence injury rates. Once VR software creation is complete, a multi-facility research study between HMW, CRECC and HMSL is being planned.

Table 2 - Workplace Violence Incidents

	June 2021	July 2021	August 2021	Sept 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	March 2022
5 East	4	1	0	2	2	0	3	1	2	1
5 West	7	4	8	4	3	5	2	4	4	1
Total Nursing Care Hours	11,859	12,914	12,432	12,829	13,411	13,026	13,065	12,290	11,770	12,615
Total Rate for 5 West and 5 East	.09	.04	.06	.04	.04	.04	.04	.04	.05	.02

Budget

Narrative

To complete all the projects within the Workplace Violence Grant Program, many purchases from several vendors had to be made.

For the augmented reality and virtual reality-based training project, a vendor with expertise in building 3D model applications was hired to map the facility, write code, and build an entire virtual environment. Jon Lindgren Productions provided their services to help design and build this innovative project. All together the production company was paid $75,955 to fund the project from the software development side. Additionally, hardware had to be purchased to run the application and training in the virtual environment. Apple iPads were purchased to run the augmented reality-based application for a total of $3,768.75. To run the virtual reality-based application, computers, virtual reality headsets and equipment were purchased for a total of $18,835.54. Two virtual reality rooms have been built at two different Houston Methodist Hospital sites in Sugar Land and West Houston to support the training program.

For the de-escalation training video, another film production company was contracted to film and edit the video from scratch. All scrips and actors were developed internally which provided a cost savings for the organization. Altogether, the project would cost $8,350 to complete.

The tele-sitter program was a project designed to work in tandem with a patient behavior evaluation tool that was designed internally by medical experts. The ABRAT tool scores and recommends mitigations to remove nurses from the bedside of patients that have been listed for history of committing violence or verbally aggressive towards staff. Alternatively, tele-sitters would be used to monitor patients remotely by technicians that are trained to monitor behavior all while continuing to provide care to the patient. Six tele-sitters have been purchased through the grant funding for the Houston Methodist Baytown Hospital at a cost of $65,240.60.

All projects totaled $172,149.89. With a budget of $173,282, we fell short of our projections by $230.48. This can be contributed to unforeseen factors with supply chain shortages, fluctuating costs to computer parts, and other effects caused by COVID-19 pandemic.

Appendix C. Final Project Report as submitted by Parkland Health and Hospital System

Executive Summary

As healthcare was launched into the battle of the COVID -19 pandemic, Parkland Health noted a very small window of reprieve from episodes of violence in the very early months of COVID-19. The issue of violence in healthcare has plagued our best resources (employees and providers) for decades and this issue has now risen to a fever pitch calling for change at the local, state, and national levels. As we learned through COVID, healthcare workers are not expendable. The value of their knowledge and loyalty to one's organization became evident especially as so many left their positions as demonstrated through the 'great resignation.' If our healthcare workers do not feel the support of their leaders to create safe environments to practice, they will look elsewhere or leave their profession overall.

Parkland is thankful for the funds provided and have used them to not only address violence but also address wellness and recovery for those involved in violent acts encountered by our caregivers.

Project Narrative

Project Description

The objectives were to address violence and recovery and wellness for those involved in violent acts while also identifying the necessity of reporting events to better assist in determining trends to enable the health system to work proactive preventative strategies.

The primary objectives of this project include:

1. Data Reporting:
   a. Decrease physical event reports
   b. Increase verbal event reports (due to lack of reporting).
2. Enhance the current system workplace violence (WPV) and SPARKS Peer support programs, through the development of focused sub-committee groups in the Ambulatory Clinics and the Emergency Department (ED), Psychiatry and Trauma departments to enable nurses to be cared for along

their healing continuum and build a safe space for decompression (Meditation Room).
3. Purchase of additional personal alarms for nurses.
4. Expanding previously developed courses on WPV (developed for WPVAN Grant Phase I) into community course offerings into local nursing school programs within the Dallas community.

Implementation Methodology

Parkland Health continue the work of Phase I WPVAN Grant with the previously established multi-disciplinary team with monthly virtual meetings which included data review, progress reports on identified actions and the implementation of new actions. The committee also welcome new members from different service lines and roles to better enable share opportunities across the health system.

The SPARKS Executive Team quickly pivoted to develop materials and support mechanisms for staff and the SPARKS Peer Supporters as the incidents of violence escalated. Some of these included but were not limited to:

- Resource materials (Badge Buddies, Lavender Cart Resources)
- Lavender Carts
- SPARKS Peer Support Rounding
- Wellness Webinars
- SPARKS Office Hours schedules
- Development of a SPARKS retreat (knowing this was very tentative based on the COVID surges)

One of our WPV Committee members was the main contact for reaching out to the deans of local Nursing School Programs which proved to be very beneficial. We scheduled calls with all three nursing school contacts to review our proposal where all three were intrigued by the topic but very interested in having their students listen to the education session. We were successful in delivering one presentation to a local nursing school in person on Saturday, April 30, 2022, the final day of the grant. The students and professors were greatly appreciative of the information and asked for a return presentation in the next school year.

Project Goals

Goals of the grant project included:

1. Reduce the total # of reported incidents by 5% where nurses are involved in physical acts of WPV.
2. Increase the total # of reported incidents by 5% where nurses are involved in verbal acts of WPV.
3. Increase contacts with nursing and medical school leaders to discuss WPV curriculum.
4. Increase the # of SPARKS focused subgroups, staff support resources, outfit a meditation room.
5. Purchase of additional personal alarms for nurses.

Impact

Impact of the WPVAN Grant Program is addressed for each goal:

1. Reduce the total number of reported incidents where nurses are involved in physical acts of WPV:
   a. Throughout the grant period, reported raw data was reviewed each month. Data demonstrated a brief downward trend for two months (April & May 2020) with the initial pandemic surge. Overall, the number of physical events noted increasing severity of harm over the grant period although the number of reported events decreased. The decrease did not appear to be due to less physical assaults but more due to burn out, apathy in reporting and the challenge of placing the event in the system.
   b. In addition, the large number of contract staff who may have been subject to physical violence may not have taken the time to report events.
2. Increase the total number of reported incidents where nurses are involved in verbal acts of WPV:
   a. With increased education and emphasis on reporting of verbal acts of violence, data demonstrated a positive upward trend for several months although this level of reporting was not sustained.
   b. The final four months of the grant, there were very few verbal assaults reported. In most instances, verbal assaults accompanied physical assaults, disruptive behavior and/or destruction of property. For these events, the verbal assault would take a back seat to a reported event of higher severity. Both/all would not be captured
   c. In addition, the large number of contract staff who may have been subject to verbal violence may not have taken the time to report events.
3. Increase contacts with nursing school leaders and present WPV curriculum:

a. Three successful contacts were made with local nursing school deans. All were very supportive of their students having this information embedded into their curriculum.
b. With the continuation of COVID, the need for student support (nursing, medical and allied health) was needed in all healthcare organizations as care became more specialized and the usual staff were not available for the traditional roles.
c. On the final day of the grant, 4/30/22, a presentation was given to 60 Brookhaven nursing students and faculty titled, 'Workplace Violence in Healthcare.' Brookhaven College of Nursing is one school where Parkland heavily recruits, and where the students use our clinical services for experiential learning.

4. Increase the number of SPARKS focused subgroups and activities to support the SPARKS Supporters
   a. Two new SPARKS focused subgroups emerged from the original program:
      i. Correctional Health trained six SPARKS supporters from various roles and who worked different shifts
      ii. The Community Orientated Primary Care Clinics developed a Champion group to support those in the clinic settings
   b. Three Lavender Carts filled with supportive items and references were built/deployed within the hospital.
   c. A renewal retreat was provided at the downturn of the pandemic where all were vaccinated and able to get away, relax and 'exhale.'
5. Purchase of additional personal alarms with re-allocation of funds:
   a. The success of the personal alarm purchase in Phase I and the additional monies allocated allowed Parkland to purchase additional alarms to backfill those where the batteries had failed. The lifetime of the personal alarms was 1- 2 years.
   b. The popularity of these alarms for nurses enabled Parkland to obtain an additional grant from the Parkland Foundation to provide each member of the workforce to receive one of the alarms.
   c. The personal alarms have been very successful in deterring aggressive patients/visitors, have elicited peer in need support due to the piercing sound which has prevented harm to our nurses.
   d. Supply chain challenges plagued the vendor which caused a delay in the deployment of the alarms.

Lessons Learned

1. Lack of appreciation of the burden violence places on staff.
2. Wellness is a necessity. People cannot work when they're struggling at work and at home.
3. The public has revealed maladaptive coping skills as the pandemic continued (airlines, road rage) and the need for a healthcare Bill of Rights.
4. Need for new mechanisms to report events (currently being explored) as the available vendors do not appreciate the sense of urgency to improve the reporting in this area.

Sustainability

1. The emphasis of reporting of all events will continue. More efforts are underway to improve granular data capture of all acts of violence.
2. The SPARKS Peer Support Team continues to sustain itself through monthly meetings which include wellness activities and role playing.
3. Continued use of the Meditation Room and Lavender Carts with additional stock coming from the departmental budget will continue to provide respite to those injured or their teams that have been witness to the violence.
4. Additional personal alarms have been purchased for all employees and physicians and are given to newly hired employees.
5. Efforts will continue to work with local nursing schools to provide knowledge about the violence in healthcare and how to better keep oneself safe.

Appendix D. Final Project Report as submitted by Texas Children's Hospital

Executive Summary

Workplace violence (WPV) is a well-documented phenomenon in the healthcare environment. Pediatric facilities are not immune to the violence that can occur from patients, families, and others within the environment. Texas Children's Hospital (TCH) is one of the largest pediatric academic healthcare systems in the nation, with over 140,000 emergency center visits and over 242,000 patient days in fiscal year 2021 (October 2020 through September 2021). In 2018-2019, TCH implemented a quality improvement project within two of the organization's emergency centers (EC) to improve nursing care team members' competence and confidence when responding to WPV events. That foundational work became the basis for the WPV project funded by the Texas Department of State Health Services (DSHS).

To better understand and address hospital based WPV concerns, TCH and the University of Texas Health Science Center at Houston Cizik School of Nursing (CSON) partnered to develop, implement, and evaluate an innovative program to reduce the severity and frequency of WPV against nurses through timely reporting of and response to WPV incidents. This program leveraged technology to identify WPV occurrences in real-time, alerted and deployed a reconfigured TCH WPV Response Team to provide support for nurses who experienced WPV, and provided training and simulation to team members on the prevention and mitigation tactics for WPV events. The EC and the Transitional ICU (TICU) at the TCH Medical Center campus were identified as the target areas due to the high-stress, complex patient care environments and because those areas reported a higher volume of stressful encounters with families and visitors.

The award of $179,979.45 from the DSHS allowed the project team to focus on initiatives that would:

- assess the efficacy of utilizing an Ecological Momentary Assessment (EMA) to measure real-time factors associated with an WPV event,
- utilize technology to identify WPV events in real-time,
- operationalize a redesigned TCH WPV Response Team to be deployed after a WPV event is reported to support the nurse, and

- train and educate multi-disciplinary team members on prevention and mitigation of WPV, using individualized, innovative educational methods.

There were several key accomplishments of this work. One of these was the creation and implementation of a multi-factorial intervention including a required online, evidence-based computer module; an interactive, third-party de-escalation virtual training, and simulation scenarios for the EC led by members of the CSON, TCH simulation department, and security team. This educational series provided foundational knowledge regarding the prevalence, incidence, and consequences of WPV. It also gave learners key signs of escalating behavior and specific actions to take to address these concerns. This type of universal, foundational content was not previously readily available virtually at TCH. With the utilization of third-party content, TCH was also able to set stream-lined expectations for the de-escalation of patients and visitors with challenging behaviors. In addition, while there were challenges in the execution of the real-time data collection process, the ability to successfully deploy and collect information at the point of care was a great success. This enabled the ability to optimize our WPV response process to ensure team members received the support they required. There was extensive collaboration throughout this project from the TCH Security Department, Information Services, Nursing, and others in order to bring this project to fruition.

Overall, the above focused initiatives were utilized to pursue the goals and expected outcomes of the project, which included:

1. Reduce physical violence against nurses as evidenced by a reduction in the number of reported incidents when comparing baseline and post-intervention data.
2. Reduce the severity of WPV incidences as noted by EMA responses pre and post intervention.
3. Increase staff self-rating of competence in addressing WPV events using a visual analog scale both pre and post intervention.
4. Team confidence will be enhanced throughout the training program and through application of the WPV response team.
5. Increase the degree to which nurses feel the organization provides support for the prevention of WPV.
6. Increase the degree to which nurses feel the organization provides timely response to WPV events.

The team did not achieve all of these goals due to numerous barriers and challenges presented by the COVID-19 pandemic. The design of the project was altered several times in order to ensure that pandemic-related policies, such as social distancing, were in place to protect all participants. In addition to the pandemic, the national nursing shortage also resulted in fewer volunteer participants, as our team members worked additional shifts to ensure seamless, high quality care. Due to these changes, the project budget decreased significantly and $143,215.76 was spent on this project.

Based on the work of this project, TCH has begun planning about the spread of this initiative and the long-term sustainability of WPV education, recognition, and reduction in all areas. These strategies include training for new employees, an annual competency for all employees, and an updated policy regarding our TCH response. Evaluation of the EMA tool and rapid deployment of the response team continue to be evaluated for efficacy. The use of simulation will be rolled-out to other departments and units. Finally, these funds allowed proof of concept for this work, which can be continued and enhanced at Texas Children's and other healthcare organizations.

Report Narrative

Project Description

In order to understand the current state, a gap analysis of the TCH WPV identification and management program was conducted and identified the following opportunities for improvement:

Data. Prior to this project, methods to measure incidence and prevalence of WPV at TCH were limited to the internal safety reporting system and security incident reports. These systems provided non-specific data and did not obtain elements such as areas where WPV frequently occurred, contributing factors to the violent event, events leading up to the incident, and information about the safety and well-being of the nurse immediately after the incident.

Support. Consistency in response time, support provided, and follow-up is essential to support employees, provide assistance, and ensure a positive outcome following a WPV event. During internal focus groups, staff members shared a desire for timely follow-up from security and their leaders. These focus groups and review

of processes also revealed that support for victims of WPV was not standardized and streamlined.

Training. In fiscal years 2017 and 2018, WPV was listed as the primary concern in TCH's hazard vulnerability assessment. This rating is derived from scoring the likelihood that an event can occur, coupled with the organization's preparedness for that event. In addition, staff members - including nurses, nursing assistants, and providers, have shared concerns regarding the safety of the environment. Upon review of available resources, it was noted that TCH offered limited educational programs related to WPV.

Based on these three gaps, a multi-pronged approach was designed. These project components were developed to create an innovative approach to data collection, provide a streamlined response to events, and to ensure team members receive evidence-based education and training to promote their knowledge and safety.

Innovative Data Collection. Ecological Momentary Assessment (EMA) is used to capture real-time factors associated with an event near the time of the occurrence, thus providing more timely responses, if needed and reducing recall biases. This heightened level of data provides rich content that can be used to understand the prevalence of WPV, the contributing factors, and the ability to mitigate those factors to prevent future episodes of violence. To our knowledge, this is the first time EMA has been used to capture workplace violence incidents.

In order to provide the EMA to team members, a 10-item WPV data collection instrument was deployed to staff mobile phones using a communication platform provided and maintained by TCH, called Everbridge®. This allowed nurses to report WPV incidents in a timely fashion, during their shift. QR codes were also provided on the unit to allow staff members to report WPV events in real-time.

Support Structure. Responses generated via the EMA survey were captured in a database. This data was reviewed twice daily by members of the project team to discern the presence of a WPV event and any requests for a response team intervention. If requested, the response team was alerted and an immediate attempt to contact the employee was initiated. This response team includes security services, employee relations, the employee assistance program, and members of leadership of key departments. For this project, the initial request for intervention and support was triaged through the security services department. In addition, each WPV survey indicated that the employee affected by WPV should notify their leader of the event.

Training Curriculum. An educational series was implemented to increase team member competence and confidence regarding early recognition and subsequent de-escalation of WPV events. Team members completed an evidence-based module from the Children's Hospital Association (CHA) that provided an overview of WPV, how it presents in health care settings, signs that may predict a violent episode, types of WPV escalation, and de-escalation skills to prevent violence. After successful completion, the team also participated in a virtual training course from the Crisis Prevention Institute (CPI) that provided content on de-escalation techniques and safe interventions during a WPV episode. Finally, participants from the EC team participated in in-situ simulations that provided content regarding TCH WPV-related policies/procedures, allowed participants to practice de-escalations techniques, and provided follow-up regarding each participant's performance.

Implementation Methodology

The outcome goal of this WPV project was to decrease the incidence of WPV from patients, family members, and visitors by 10% by the end of this pilot project.

- Specific aim 1. Implement an application-based monitoring system to conduct real-time, scheduled assessments of occurrences of WPV. This real-time system gathers data regarding the event and triggers the WPV Response Team to provide support to the nurse.
- Specific aim 2. Implement a 24-hour, 7-day a week WPV Response Team for victims of WPV. The purpose of this system/process is to ensure that nurses and others around them are safe, and to offer the nurses physical and emotional support prior to the end of their shift.
- Specific aim 3. Implement an individualized, asynchronous online training program focused on prevention of WPV. Simulation, utilizing role-playing, was used to emphasize the skills needed for de-escalation.

A variety of strategies and tactics were utilized to achieve these specific aims. Details regarding the implementation methodology are included below.

Specific Aim 1 Efforts:

1. Partnered with experts regarding EMA application to understand its efficacy, evidence associated with use, and processes to ensure valid data capture.
2. Developed specific questions for the EMA instrument and recruited volunteers from the target units to provide feedback regarding questions and the timing of the instrument's deployment during the work shift.

3. Collaborated with Information Services and Emergency Management to utilize existing TCH technologies to launch the EMA.
4. Validated the EMA application logic with volunteers.
5. Provided the clinical team with information regarding the purpose of the EMA instrument, instructions for completing the EMA instrument, and information about the response team.
6. Launched the EMA instrument to obtain data.

Specific Aim 2 Efforts:

1. Reviewed the existing TCH policy/procedure regarding WPV response.
2. Collaborated with key stakeholders within the WPV Response Team regarding optimization of the WPV response at TCH.
3. Provided information regarding EMA survey and associated alerts to WPV Response Team members and associated stakeholders.
4. Developed a WPV Response Team algorithm.
5. Operationalized a 24-hour, 7 day-a-week WPV Response Team comprised of team members based on existing policies.
6. Utilized the EMA survey to identify nurses who may have experienced WPV during their shift.
7. Deployed WPV Response team, as indicated or requested by the EMA survey responses

Specific Aim 3 Efforts:

1. Conducted a comprehensive literature review to determine the most appropriate educational strategies to train team members.
2. Utilized the prior work of two project team members as a pilot program to allow for rapid creation of an evidence-based training program.
3. Reviewed numerous on-line learning modules and selected an evidence-based education module created by the Children's Hospital Association to provide foundational content for all team members.
4. Partnered with the Security Department Team to create an in-person de-escalation course.
5. Reconfigured the de-escalation course plan due to social distancing concerns and selected a virtual de-escalation module.
6. Analyzed WPV incident data to develop common scenarios for use in simulation.

7. Partnered with Security and the Simulation Center to develop and deliver the content for training sessions utilizing simulation.
8. Evaluated the impact of the training program on the knowledge, confidence, and competence of nursing team members.

Challenges/Barriers

The initial timeline for this project included a launch in May of 2020 and completion in September 2021. Due to the COVID-19 pandemic, significant delays occurred in the project launch. As organizations were challenged with changing policies, protocols, and restrictions, many activities were halted to allow for a focus on management of the pandemic. As such, TCH entered an incident command structure, restricted non-essential activities to preserve the health of team members, instituted leader teams with scheduled on-site rotations, and halted all in-person activities that were not patient-care related. Inpatient bed capacity, operating room scheduling, and outpatient appointments were all impacted by planning for and actual surges in COVID-19 cases. As leadership team members were reassigned to rotating work-from-home status, assigned to operational incident command teams, and reallocated to meet the pandemic's needs, focus shifted from this project. Also, staffing concerns limited team member participation in meetings and training plans were impacted by COVID-19 restrictions. The actual timeline for the project extended through April of 2022.

In addition to the timeline changes, the overall methodology of the project was also altered due to the pandemic. Initially, the training curriculum included a live, hands-on de-escalation training course. Unfortunately, social distancing requirements and restrictions on the size of gatherings forced the team to pivot. The TCH Security team partnered closely with the project team to review virtual training options and recommended the use of CPI online. Initial plans for the simulation scenarios of the program required all team members to participate in this program. Again, restrictions of the size of gatherings, room capacity restrictions, and staffing constraints required an altered approach. The project team was able to offer the simulations in-situ within the EC for 1-2 participants at a time from that unit. In total, simulation reached a total of 31 staff members. Both of these changes to the educational approach may have confounded the results on the competence and confidence scores of participants. Changes to this methodology also reduced the overall project expenditures.

Similar to other organizations, TCH experienced staffing challenges during the pandemic. These challenges were created due to decreased census early in the

pandemic, staff quarantines throughout 2020 and 2021, and a higher-than-expected turnover of nursing staff in more recent months. With decreased numbers of staff members available, recruiting volunteer participants for the EMA portion of the intervention was difficult. As such, a much smaller pool of participants was secured. Our initial goal was to recruit 30 staff members, but 13 were actual secured. The decrease in participants led to less compensation for participation, impacting the overall budget.

Finally, there were technology limitations with this project. Initial plans included an automatic electronic EMA survey pushed to the hospital provided Voalte® phones. Due to limitations in technology and heightened cyber-security concerns, this was not possible. Instead, staff member participants were required to consent for use of their personal cell phones for EMA surveys. This greatly reduced the number of participants. Technology challenges also prevented EMA survey data from automatically triggering a WPV response. Instead, manual intervention was required to review the results and alert the WPV Response Team.

Accomplishments/Successes

Despite the challenges described, there were many successes throughout the project. The initiative created overall awareness of the significance and various impacts of WPV. Through education, team members learned key pieces of information needed to keep themselves and their colleagues safe. The interaction between the Security Department and Nursing staff led to a closer relationship and enhanced knowledge of the capabilities of Security personnel. Collaboration, inter-professional understanding, and collegiality between departments was heightened. The efficacy of utilizing EMA for tracking and monitoring WPV events was also demonstrated. Finally, the concept of an alert process for the WPV Response Team was validated.

Project Goals and Evaluation

This WPV reduction project had three overall project aims and six specific goals. Details regarding these goals are found in the tables below.

Table 3 - Project Aims and Outcomes

Project Aim	Outcome
Implement an application-based monitoring and alert system to conduct real-time, scheduled assessments of occurrences of WPV by project's end date.	MET This system was developed, operationalized, and utilized for baseline and post-project measurement in the ED, but there is not a plan to sustain/spread its use. The online event reporting system was found to be more robust and accessible to leaders.
Implement a 24-hour, 7-day a week WPV response team for victims of WPV by project's end date.	MET This team responds to phone calls in real time, vs the survey piloted, which is first seen and followed up the following day
Implement an individualized, asynchronous training program focused on prevention of WPV by project's end date.	MET Online foundational education sent to 238 staff members, with 166 completing. Online de-escalation training deployed to 238 staff members and 58 completed this aspect of training. Simulation activity completed by 31 ED staff members

Table 4 - Performance Measures

GOAL	PERFORMANCE MEASURE	PROPOSED OUTCOME	Measurement Source	Baseline	Expected	Actual
Reduce verbal and physical violence against nurses	Number of reported incidents	10% decrease in reported incidents	Security incidents per 1000 incident days (full facility)	Jan 2022=1.83	10% decrease= 1.65	March 2022 end=2.49 (highest number reported past 12 months)
Reduce severity of WPV incidences	Severity rating of reported incidents	5% reduction in severity of WPV events	Instances of workplace injury due to WPV and use of Employee Assistance Program (EAP) resources (# instances per month)	EAP use=6; Workplace injury due to WPV=6 in February 2022	5.7 EAP/injury incidents per month	EAP use=2; Workplace injury due to WPV=2 in March 2022, during a timeframe with increased activations of the duress button, security officer response, and WPV triage team activations.
Increase staff competence in addressing WPV	Visual analog scale (VAS) aggregate ratings	10% increase in ratings post intervention	7 questions addressed this element, on the pre-education survey, a self-assessed Likert scale rated 1-5 (1=not competency; 2=slightly competent; 3=somewhat competent; 4=competent; 5=very competent)	Gain of 0.5 on a question's mean score indicates 10% increase. Unable to pair to check for significance due to anonymous nature of the survey.	Range of final scores between 3.48-3.93	Mean test scores by question (pre/post): - Recognizing risk factors for violence in the healthcare setting=3.68/3.95 - Responding to all levels of disruptive or violent behavior=3.43/3.84* - Activating a response to incidents involving threat, disruptive behavior, actual violence, or immediate safety=3.60/3.92 - Knowing what to do when a patient or visitor expresses violent behaviors=3.59/3.89 - Effectively de-escalating a patient or visitor expressing violent behaviors=3.49/3.76 - Knowing how to report incidences of workplace violence=3.45/3.92* - Reporting incidents of workplace violence=3.92* Range from 3.76-3.95, with *3 of 7 areas demonstrating an increase greater than the 10% goal.
Increase staff confidence in addressing WPV	Visual analog scale (VAS) aggregate ratings	10% increase in ratings post intervention	4 questions addressed this element, on the pre-education survey, a self-assessed Likert scale rated 1-5 (1=not confident; 2=slightly confident; 3=somewhat confident; 4=confident; 5=very confident)	Gain of 0.5 on a question's mean score indicates 10% increase. Unable to pair to check for significance due to anonymous nature of the survey.	Range of final scores between 3.86-3.99	Mean test scores by question (pre/post): - Knowing what to do when a patient or visitor expresses violent behaviors=3.49/3.95* - Knowing what to do when a patient or visitor expresses threats or disruptive behavior=3.48/3.97* - Effectively de-escalating a patient or visitor that expresses threats or disruptive behavior=3.36/3.76* - Effectively de-escalating a patient or visitor demonstrating violent behaviors=3.38/3.82*

						Range from 3.76-3.95, with all areas demonstrating an increase greater than the 10% goal
Staff perception of organizational support	Visual analog scale (VAS) aggregate ratings	10% increase in ratings post intervention	1 question addressed this element, on the pre-education survey, a self-assessed Likert scale rated 1-5: What degree of support is provided by the organization to decrease WPV? (1=no support; 2=slightly supported; 3=somewhat supported; 4=adequately supported; 5=great deal of support)	Pre-test average score for this question=3.54	10% increase= 4.04	Post-test mean score for this question=3.71
Staff perceptions of timeliness of WPV response	Visual analog scale (VAS) aggregate ratings	10% increase in ratings post intervention	1 question addressed this element, on the pre-education survey, a self-assessed Likert scale rated 1-5: How timely is the organization's response to WPV events? (1=not timely; 2=slightly timely; 3=somewhat timely; 4=timely; 5=very timely)	Pre-test average score for this question=3.68	10% increase= 4.18	Post-test mean score for this question=3.74

Lessons Learned

There were both positive and negative outcomes during this project time period, the most significant being the impact of unforeseen events on a project timeline. While it was not our intent to conduct a project such as this during a pandemic, we learned valuable lessons as a result about the need for flexibility, creativity, and teamwork when conducting a project. In addition, the grant team needed additional resources to allow identification of technology needs and limitations earlier in the project. These challenges were overcome, but earlier engagement of Information Services could have bolstered the project.

Positive lessons from this project included a heightened sense of awareness regarding the significance, incidence, and impacts of WPV. Anecdotally, staff members shared that they were not aware of the far-reaching consequences of WPV and that they would no longer tolerate these situations. The education that was deployed provided an essential piece of foundational knowledge that can be built upon with future initiatives. Communication was also enhanced between nursing and security services for the facility, with greater understanding of each team member's role in WPV prevention and mitigation. As roles and responsibilities for a response team were reviewed, contact information and training was shared with front-line staff to reinforce policy and organizational expectations.

Sustainability

To our knowledge, this intervention's outreach using EMA and QR codes to collect real-time data does not exist and is critically needed in other settings. This effort moved the science of WPV prevention and mitigation forward by developing and testing an EMA-driven intervention to collect needed data in real-time concerning exposure to physical and verbal violence in the workplace. Simulation exercises were well-received and their use will be extended to other units with critical needs in the coming year. Online WPV education will be included with new employee orientation and annually going forward.

Budget

At project inception, $172,212.44 was allocated for this project. As outlined in the initial budget proposal, TCH and CSON requested funds for contractual services for the use of a statistician and for gift card payments for project participants. Due to the decreased number of project participants, these expenditures were reduced by

$15,696.17. The change in number of participants also decreased the materials and supplies required for the project by $4,634.80. This savings occurred by eliminating refreshments during live training events and decreasing postage services for gift card distribution. As noted in the table below, the amount of funding allocated for the salaries and wages of project team members was slightly overestimated, leading to a cost variance. This also impacted indirect costs, as noted in the "other" line item in the table below. Overall, a total of $28,996.68 that was allocated for this project was not spent.

Table 5 – Budgeted Award Amount and Expended Funds

	Budgeted Amount Awarded	Actual Funds Spent	Unexpended Funds
Salaries and Wages	$ 66,800.00	$ 64,005.86	$ 2,794.14
Consultation/Contractual Services (BCM, UTH)	$ 46,935.00	$ 31,238.83	$ 15,696.17
Equipment	$ 0,000.00	$ 0,000.00	$ 0,000
Materials and Supplies	$ 19,918.21	$ 15,283.41	$ 4634.80
Other	$ 38,559.23	$ 32,687.66	$ 5,871.57
TOTAL	$ 172,212.44	$ 143,215.76	$ 28,996.68

Conclusions

Overall, this WPV reduction project was a success. While there were many unforeseen challenges and barriers, the grant team was able to pivot and execute a project that resulted in an increase in staff competence and confidence when dealing with WPV events. The team also demonstrated the efficacy of EMA in this setting and found that learners greatly valued simulation for this type of training. The partnership between TCH and CSON was critical in ensuring the development and implementation of an evidence-based, operationally focused program. Further analysis and spread of this type of program will continue to enhance the safety of the environment where nurses provide care.

Appendix E. Final Project Report as submitted by University of Texas Health Science Center Houston – Harris County Psychiatric Center – Cizik School of Nursing

Executive Summary

Trauma Informed Care (TIC) practices are shown in the literature to be effective in increasing safety among inpatients, decreasing workforce turnover, increasing morale, decreasing workplace injury to direct-care staff, and decreasing seclusion and restraint (S/R) events. There are multiple studies indicating TIC decreases injury and assault to direct-care staff; however, in the nursing violence literature, TIC has not been implemented for the specific purpose of reducing workplace violence among nursing professionals. Current research calls for culture change to occur via a TIC initiative to benefit patients and staff, maintain safe psychiatric workplaces, and sustain confidence in psychiatric settings. Most, if not all, of the relevant literature indicates TIC approaches as a leading intervention strategy. This project aimed to apply TIC principles on two pilot units and measure specific outcomes pertaining to injuries, assaults, S/R, adverse work events and patients' sense of safety.

The project was executed at the UTHealth-Harris County Psychiatric Center (UTHealth-HCPC), a 274-bed acute inpatient psychiatric hospital. To assess workplace traumatization, as measured by reported adverse work events, one acute adult inpatient unit and one acute child and adolescent inpatient unit were selected. The primary aims of the project were to utilize Trauma-Informed Care (TIC) practices to significantly:

1. Decrease patient-on-staff injuries and physical assaults toward psychiatric nursing direct- care staff (i.e., registered nurses, licensed vocational nurses, psychiatric technicians);
2. Reduce seclusions/restraints (S/R) events;
3. Reduce staff reported adverse work events; and
4. Increase patient-reported sense of safety.

The staff on these units were evaluated pre and post TIC interventions related to adverse work events to assess the impact these events have on staff well-being. Additional data collected for this project consisted of patient-on-staff injuries, assaults, S/R events, adverse work events, as well as patient-reported sense of safety and perceived emotional concern from staff.

An initial outcome goal for this project was to observe a 50% decrease in patient-on-staff (POS) assaults on staff during the grant period for the two pilot units, 1E and 3D. At baseline, unit 1E, a general acute child and adolescent inpatient unit accounted for 11% of hospital-wide POS assaults and this number was reduced to 4% of hospital-wide assaults by March 2022. We did not observe similar reductions for Unit 3D, a high acuity mood disorder inpatient unit. A subsequent project goal was to observe a 20% reduction in seclusion and restraint (S/R) events for the pilot units during the grant period. Unit 3D had an overall decrease in S/R events during the project period. Unit 1E had similar results with a more linear decline in seclusion and restraint events during the project period. The findings for the pilot units are promising and suggest that the TIC training may have been effective in reducing S/R events, despite not meeting outcome measure goals. Regarding the goal of a 20% reduction in adverse work events for staff, as measured by the Staff Workplace Experiences Questionnaire (SWEQ), no significant changes were noted. The questionnaires were administered in September 2019 and again in March 2022. We did not find significant changes in types of adverse experiences nor the frequency of adverse experiences between those who attended the trainings compared to those who did not attend the trainings.

The COVID-19 pandemic affected every aspect of our project. TIC train the trainer had to be conducted virtually, with fewer personnel attending the class. Cohort size for TIC training had to be significantly decreased, enrolled personnel often did not attend training because they were needed for provision of cross coverage due to persistent staffing shortages, and VR simulation was not made available by SimX within the duration of the project period due to their inherent backlogs. The PPT was not able to be executed due to high demands on nursing leadership during nurse staffing shortages across the hospital, as well as competing demands on project personnel's time. Additionally, in May 2021, our hospital transitioned to the EPIC electronic health record, which complicated data extraction from patient chart fields related to S/R events, trauma triggers, and TIC interventions. Though these barriers impacted the project outcomes, they offered lessons learned for the future.

The primary accomplishment of this project is that TIC was launched and will be maintained at UTHealth HCPC and Dunn Behavioral Sciences Center. To date, 162 staff members were trained in TIC. Eighteen from Admissions, 15 from Programming/Social Services, 3 from HCPC Leadership, 2 from Hospital Wide Education (HWE), 3 nurse practitioners (NPs), 68 registered nurses (RNs) and psychiatric technicians (PTs), 15 psychiatrists, 34 psychiatry residents, 2 psychology interns, 1 nursing student and 1 psychiatry fellow. The hospital wide education (HWE) team will be adopting the curriculum into their new-hire

orientation as well as annual refresher trainings. Thus, over time, the culture will shift to be more trauma-informed, and we will have baseline data to which to compare future data analyses and track our progress across time.

A total of $80,944 of the $96,954.00 was utilized during the grant period for the execution of the project. $8,198.92 was used for the NASMHPD-Train-the-Trainer training and material supplies needed for the TIC trainings. The remainder and majority of the award was allocated to cover the effort time of employees attending TIC trainings. The remaining funds were earmarked for indirect costs.

Though the data noted in the current report may suggest TIC was not effective in addressing workplace violence against inpatient nurses, we are confident that with our sustainability plan, ongoing TIC training, improved accountability of TIC utilization, and mandating hospital leadership training will lead to cultural change at our hospital, which will ultimately decrease and improve workplace violence for nurses.

Report Narrative

Project Description

Patient physical and verbal assault on psychiatric direct-care nursing staff (e.g., registered nurses, licensed vocational nurses, and psychiatric technicians) is by far the most prevalent form of violence in the field. Multiple studies identify trends where a majority of staff (as many as 95% in some populations) have sustained aggression-induced, workplace injury (Carmel & Hunter, 1989; Flannery, Hanson, & Penk, 1994; Langsrud, Linaker, & Morken, 2007). Studies reporting on psychiatric direct- care staff injuries report that the majority of these incidents emerge during S/R events (Carmel & Hunter, 1989).

Preceding literature has attributed S/R with rising injury among direct-care staff. In one study, 426 cases out of 507 patient-on-staff (POS) assault reports occurred during attempts to halt patients' aggressive behaviors (Langsrud et al., 2007). More frequently, direct-care nursing staff are exposed to verbal abuse from patients, leading to negative psychological effects on staff and a decrease in functioning in the profession (Stewart & Bowers, 2013). Violence exposure while providing psychiatric care presents emotional and mental risks to staff whom, in the event of injury from patient assault or vicarious trauma, may develop their own primary or secondary trauma reactions (Menschner & Maul, 2016; Wilson, Hutchinson, & Hurley, 2017). Symptoms of traumatic stress among psychiatric staff have been

found to develop negative outcomes such as decreased confidence, negative view of workplace environments, reduction in relationships, avoidance and exit from the profession, as well as increased substance use (Edward, Ousey, Warelow, & Lui, 2014; Wilson et al., 2017). Burn out and the ensuing inability to provide effective, high-quality care to consumers is another occurrence from staff traumatic stress and often results in staff turnover and resentment among residing staff (Menschner & Maul, 2016). Physical, emotional, and mental harm to nurses and psychiatric professionals' garners detrimental harm clinically, financially, and professionally in behavioral health settings.

TIC is effective in drastically reducing the frequency of S/R occurrences and physical and verbal assault on staff while producing positive mental health outcomes for both consumers and staff. Though most patients admitted to inpatient psychiatric hospitals have had at least one adverse event in their life, many do not disclose this information and/or do not have the insight that their trauma history is currently affecting them negatively. Therefore, specific TIC techniques are based in the following principles:

- Promoting a sense of psychological and physical safety among patients and staff;
- Using transparency for decision-making and building and maintaining trust;
- Leveling power differentials among patients and staff to support collaborative decision making and increasing a sense of control;
- Patient and staff strengths are recognized, capitalized on, and validated;
- Communicate effectively to respond to patient needs rather than react to their needs;
- Assume all patients have a history of at least one adverse event and should be treated sensitively;
- Evaluate and understand the function and intent of behaviors;
- Recognize practices that are re-traumatizing;
- Modify language used to be sensitive to trauma history.

Given the extensive population of trauma victims within psychiatric settings, recent literature and organizations such as the National Association of State Mental Health Program Directors (NASMHPD) and the Substance abuse and Mental Health Services Administration (SAMHSA) protest the use of S/R methods (Borckardt et al., 2011). S/R practices cultivate re-traumatization in patients with abuse history and result in both staff and patient injury and even death (Barton, Johnson, Price, & Services, 2009). Furthermore, those with a history of trauma are more likely to be exposed to S/R practices due, at least in part, to significant behavioral and emotional

dysregulation, as well as maladaptive means of coping with posttraumatic reactions (Hammer, Springer, Beck, Menditto, & Coleman, 2011). To reduce S/R practices and limit risk of traumatization in both staff and consumers, TIC implementation has undergone numerous studies with the majority reporting positive, beneficial results in improving patient and staff outcomes and reducing S/R practices (Azeem, Aujla, Rammerth, Binsfeld, & Jones, 2017; Blair et al., 2017; Wilson et al., 2017).

By implementing TIC practices at UTHealth-HCPC, staff would benefit from an environment that is safe and healing to work in, as well as potentially face fewer ethical and moral struggles of administering S/R practices (Regan, 2010). Utilizing TIC to decease S/R in this population will also drastically decrease POS assault related injuries in staff, followed by a reduction in workdays missed due to such incidences, and a reduction in costs associated with staff-patient injury and S/R practices (Lebel & Goldstein, 2005). Secondary trauma exposure to staff will also be reduced with the implementation of TIC as it requires staff to engage patients with consideration for trauma histories in mind, and further education for staff can prevent negative effects of secondary trauma. Consumers are likely to benefit from such culture change as TIC keeps the best interests of the patient and staff in mind and works to reduce re-traumatization in these populations by implementing effective de-escalation techniques to avoid S/R tactics (Barton et al., 2009).

At the start of this project, UTHealth-HCPC was the second largest stand-alone psychiatric facility in the country, treating a variety of patient populations including general and forensic adult and adolescent units, a geriatric unit, and units that serve patients with mood disorders, psychotic disorders, and comorbid substance use. In fiscal year (FY) 2019, staff injuries at HCPC were reported as 117. In FY 2019, Unit 3D recorded 92 S/R events and unit 1E recorded 54 S/R events.

The nursing staff at UTHealth-HCPC is comprised of nursing leadership, registered nurses (RN), licensed vocational nurses (LVN), and psychiatric technicians (PT). Additionally, clinical care coordinators are typically RNs who oversee programming and operations on multiple units and maintain a managerial role. Each unit includes two RNs and 2-3 PTs. PTs at UTHealth-HCPC have the most direct and frequent contact with patients on the units, and are inherently most likely to experience injuries, as well as verbal and physical assault from patients. 68 nursing staff members received TIC training, including 68 who received Part 1, and 14 received Part 1 and 2.

All staff who interact with patients on the two identified units, including RNs, LVNs, and PTs, as well as physicians, social service clinicians (SSC), and psychologists

were trained in TIC interventions. Of the physicians who were trained, 34 were psychiatry residents and 1 was a child and adolescent psychiatry fellow trainee who were invited to fill vacant seats in scheduled trainings. To supplement the 5-hour TIC training, 2 hours of role play simulations using clinical case vignettes were used to assist learners in applying their TIC skills. Feedback from peers and facilitators was provided for each role play, specifically indicating which skills were effectively used, and which skills were needed. One case vignette involved an agitated adolescent being transferred to the hospital by law enforcement, and the other vignette involved a transgender adult during the admission process and physical examination.

TIC trainings occurred simultaneously with ongoing data collection regarding S/R events, staff injuries and physical assaults were collected. In addition, data regarding staff workplace experiences were collected pre and post-TIC to better understand the types of experiences (e.g., witness a patient be handcuffed, participating in patient restraint, etc.) staff have on the job.

The project intended to activate a Proactive Prevention Team (PPT) protocol following the occurrence of an assaultive or S/R event. PPT is comprised of a psychologist and nursing staff who would consult the treatment team to discuss interventions specific to the patient that can assist in preventing future assaultive or S/R events. PPT was not able to be implemented due to barriers as noted above. Thus, PPT data was not collected. This may be a goal for the future with nursing leadership support.

In September of 2020, an instructor from the National Association of State Mental Health Program Directors (NASMHPD) provided train-the-trainer training to a group of select UTHealth-HCPC personnel from all disciplines including psychiatry, social work, nursing, and psychology. The two-day course, totally 16 hours, consisted of a Trauma Informed Care curriculum developed by the Substance Abuse and Mental Health Services Administration (SAMHSA). NASMHPD also facilitated a 1 hour meeting with hospital leadership to discuss the aims and value of TIC.

The investigators of this project used the Trauma Informed Care curriculum to develop a two-part course for the two identified pilot units at UTHealth-HCPC. Though the initial aim was to have those who participated in the train-the-trainer course to co-facilitate trainings to unit staff, COVID related staffing shortages impeded that aim and co-investigators conducted all trainings for hospital personnel, instead. All staff who interact with patients on the two identified units,

including RNs, LVNs, and PTs, as well as physicians, social service clinicians (SSC), and psychologists were trained in TIC.

TIC Part 1 training consisted of a four-hour, interactive discussion and didactic based on the Substance Abuse and Mental Health Services (SAMHSA) TIC curriculum. The goal of Part I trainings was to educate and inform staff on adverse childhood events, brain development, common trauma reactions that are often misunderstood as problematic behaviors, and trauma-informed communication techniques to improve escalation prevention and decrease seclusion and restraints (S/R). Part II was a three-hour training that consisted of learning escalation prevention techniques, verbal de-escalation, and role play activities using case vignettes. Initially, this segment of training was going to consist of virtual reality (VR) simulation, but due to barriers described below, case vignette role plays were used. Didactic discussion and debriefing sessions were held after each role play whereby participants received feedback from peer observers and facilitators. Following each Part I and Part II training session, attendees completed feedback surveys to determine areas for growth for future cohort trainings.

The Staff Workplace Experiences Questionnaire and the Response to Stressful Experiences Scale were disseminated before (September 2020) and after the implementation of TIC (March 2022). The questionnaires were uploaded to Qualtrics and the link was sent to HCPC personnel via email. Some examples of the adverse events assessed included witnessing a patient being handcuffed and restrained, or medicated against their will, which are often considered distressing events for staff. Pre and post TIC data was collected and analyzed to determine if workplace experiences and relevant reactions changed since the implementation of TIC interventions. Furthermore, data regarding S/R events, staff assaults/injuries, and patient's sense of safety were also collected and analyzed to determine outcomes.

Between March 1, 2020 and May 31, 2020, progress was limited by the unforeseen COVID-19 pandemic that had begun to disrupt many normal operations at the hospital. We submitted the IRB application for approval by the Committee for the Protection of Human Subjects (CPHS) of the study (IRB Number: HSC-HCPC-20-0669). We also prepared the Staff Workplace Events Questionnaire (SWEQ) to distribute to staff electronically via Qualtrics. Additionally, we identified trainers from each discipline who would participate in the Trauma Informed Care (TIC) Train the Trainer training in September 2020. Moreover, we worked with the representatives at the National Association of State Mental Health Program Directors (NASMHPD) to schedule virtual, instead of in-person, TIC training for trainers in September 2020.

Between June 1, 2020 and August 31, 2020, trainers from each discipline were identified to participate in the Trauma Informed Care (TIC) Train the Trainer training in September 2020. The Train the Trainer training was scheduled for September 17 and 18, 2020. We enrolled 12 nursing staff, 7 social service clinicians, 4 psychologists, 2 nurse educators, 2 psychiatrists, 2 research assistants, and 1 nursing faculty representative from the UTHealth School of Nursing. On July 22, 2020, IRB approval was received from the Committee for the Protection of Human Subjects (CPHS) of the study (IRB Number: HSC-HCPC-20-0669). Additionally, on August 3, 2020, the pre-Trauma Informed Care (TIC) Staff Workplace Experiences Questionnaire (SWEQ) was distributed via email, and data collection was initiated.

Between September 1, 2020 and November 30, 2020, the pre-Trauma Informed Care (TIC) Staff Workplace Experiences Questionnaire (SWEQ) concluded on September 16. Over 100 respondents completed the survey with the majority (39.8%) of responses from HCPC Nursing and Psychiatric Technician staff. A scheduled two-day virtual TIC Train-the-Trainer training was completed on September 18, 2020. Attendees to the TIC Train-the-Trainer training included 12 nursing staff, 7 social service clinicians, 4 psychologists, 2 nurse educators, 2 psychiatrists, 2 research assistants, and 1 nursing faculty representative from the UTHealth School of Nursing. TIC Training slides were obtained from the National Association of State Mental Health Program Directors (NASMHPD) and further tailored to fit the specific training needs for HCPC staff. The first TIC training to be facilitated by HCPC TIC trainers was scheduled for December 15th and 16th and sought to enroll nursing and psychiatric technician staff from study pilot units 1E and 3D. Furthermore, weekly meetings were conducted to create trauma informed revisions to HCPC documentation systems, determine SimX simulation scenarios for development, and to further finalize Proactive Prevention Team (PPT) protocols. Two SimX simulations, one modeled for adolescent patients and one modeled for adult patients, were finalized and submitted for development on October 3, 2020.

Between December 1, 2020 and February 28, 2021, preliminary analysis was conducted on the completed pre-Trauma Informed Care (TIC) Staff Workplace Experiences Questionnaire (SWEQ) and a detailed demographic and item report was obtained on February 10, which included analysis on the Response to Stressful Experiences Scale (RSES). Six Part I TIC trainings occurred to educate staff on trauma-informed care practices. Part I training consists of a four-hour, interactive discussion and didactic based on the Substance Abuse and Mental Health Services (SAMHSA) TIC principles. Sixty-eight individuals from the nursing, psychiatry, social

services, and admissions departments attended the Part 1 HCPC TIC training between December 1, 2020 and February 28, 2021. Project personnel and nursing leadership participated in meetings in order to collaboratively finalize revisions to HCPC Seclusion/ Restraint notes for the electronic medical record (EMR). The S/R documentation was revised to incorporate trauma-informed language and prompt staff to utilize listed TIC de-escalations tactics. On February 8 nursing staff underwent training to utilize the new note and the document went live on February 16. The new note would have assisted in evaluating the frequency of TIC strategies utilized by staff and their effectiveness in de-escalating patients in crisis to avoid seclusion, restraint, and staff injuries. Later, it was revealed that the new note was not produced in the new EPIC health record system which went live the following month, May 2021.

Between March 1, 2021 and May 31, 2021, two Part 1 HCPC-TIC trainings occurred to educate and inform staff on trauma-informed care practices to decrease seclusion-restraints and increase escalation prevention behaviors on units. Nineteen individuals from the nursing and psychiatry departments attended the Part 1 HCPC TIC training between March 1 and March 31. Post HCPC-TIC trainings, attendees completed surveys to determine areas for growth for future cohort trainings. In April, updates were requested on the status of the adult SimX virtual reality simulations, but response rate was minimal and delayed.

Between June 1, 2021 and August 31, 2021, two Part 1 HCPC-TIC trainings occurred to educate and inform staff on trauma-informed care practices to decrease seclusion-restraints and increase escalation prevention behaviors on units. Twenty-three individuals from the nursing and psychiatry departments attended the Part 1 HCPC TIC training. On July 19, Dr. Ashtari provided DSHS with a revised project timeline, and meetings were held to prepare for Part II. Proactive Prevention Response Team (e.g., debriefing) protocols were developed and submitted to clinical leadership at the hospital for review.

Between September 1, 2021 and December 31, 2021, the team finalized Part I trainings for the staff in the two pilot units. Five Part 1 HCPC-TIC trainings occurred and nineteen individuals from the nursing department attended those trainings. Additionally, thirty-one physicians and nurse practitioners attended a hybrid training session composed of Part I and Part II content within a 4-hour training. On September 13, our team was informed that the adolescent SimX simulation is available in the testing VR environment. In order to prepare for Part II trainings, project personnel met with the director of the simulation lab, reviewed the adolescent simulation using VR technology, and identified and requested revisions

to the simulation vignette on October 14, 2021. Subsequently, revision feedback was returned to SimX for corrections the following day.

Between January 1, 2022 and March 31, 2022, the project had to undergo modification. Unfortunately, the team did not receive the revised adolescent simulation. The adult simulation became available for review on January 11, 2022, and given the delays already experienced to that date, the team agreed to replace VR simulation with clinical case vignettes and role plays for Part II trainings. One adult and one adolescent case vignette were written, reviewed and finalized as well as the development of a feedback checklist for audience members to use when observing the role plays. The investigators submitted a request to the IRB in order to add role-play vignettes in lieu of the virtual reality simulations. The IRB approved the modifications with role plays, post-TIC performance measures and recruitment tool. Three Part II trainings occurred to educate and inform staff on trauma-informed care practices to decrease seclusion-restraints and increase escalation prevention behaviors on units. Five nurses and eight psychiatric technicians from the two pilot units attended the three Part II trainings. Part II is 3 hours in duration, and consists of learning escalation prevention techniques, verbal de-escalation, and role play activities using case vignettes that were initially intended for the virtual reality simulations. A "fishbowl" role play model was used: one facilitator playing role of patient, and one audience member volunteer played the role of the employee engaging the patient while applying learned TIC techniques; audience observers used a feedback checklist to identify constructive and positive feedback for the role play provider. Didactic discussion and debriefing sessions were held immediately afterwards among the participants, observers, and facilitators. After the didactic sessions, attendees completed surveys to determine areas for growth for future cohort trainings. Moreover, the team discussed the logistics of the Proactive Prevention Response Teams (PPT) and ultimately determined the implementation of the PPT may only be feasible after staffing stabilization occurs in the hospital, and HWE has taken on future trainings.

Project Goals and Evaluation

Patient-on Staff Assault Outcomes

An initial outcome goal for this project was to observe a 50% decrease in physical assaults on staff during the grant period for the two pilot units. The included data spans from fiscal year 2019 through March 2022. At the start of the TIC training, unit 1E accounted for 11% of hospital-wide patient-on-staff assaults and this

number was reduced to 4% of hospital-wide assaults by March 2022. We did not observe similar reductions for Unit 3D as evident by Figure 1 provided below.

In addition to examining the pilot units, we examined additional units to gain a comparison of patient-on-staff assault events in units not yet fully trained in trauma-informed care. The results are provided in Figure 2 below. Unit 1E does not have a comparable unit in the hospital so it was not included in the comparison analysis. Both units 3D and 3C saw an increase in patient-on-staff assaults during the grant period. While unit 2E saw a minor decrease, and unit 3E saw a more substantial decrease.

These findings may have resulted from several factors. In general, there was an increase in patient-on-staff assaults on acute units during the grant period. Fiscal year 2019 had 92 patient-on-staff assaults, 2020 had 133 assaults, 2021 had 109 assaults, and 2022 has already had 104 assaults. The increased assaults may have been due to staffing shortages during the COVID-19 pandemic. An anecdotal explanation that remains to be empirically investigated is the degree to which acuity in mental illness secondary to COVID-19 infection may have had an impact. The pandemic also caused greater fluctuations in unit census as patients who were COVID-19 positive were moved to quarantine units. In addition, certain units were kept at lower numbers due to staffing shortages and an attempt to reduce the risk of spreading the virus. Therefore, these units may not allow for adequate comparisons, which creates a challenge for evaluating the overall effects of the TIC training.

Figure 1: Patient-on-Staff Assaults for Pilot Units by Fiscal Year

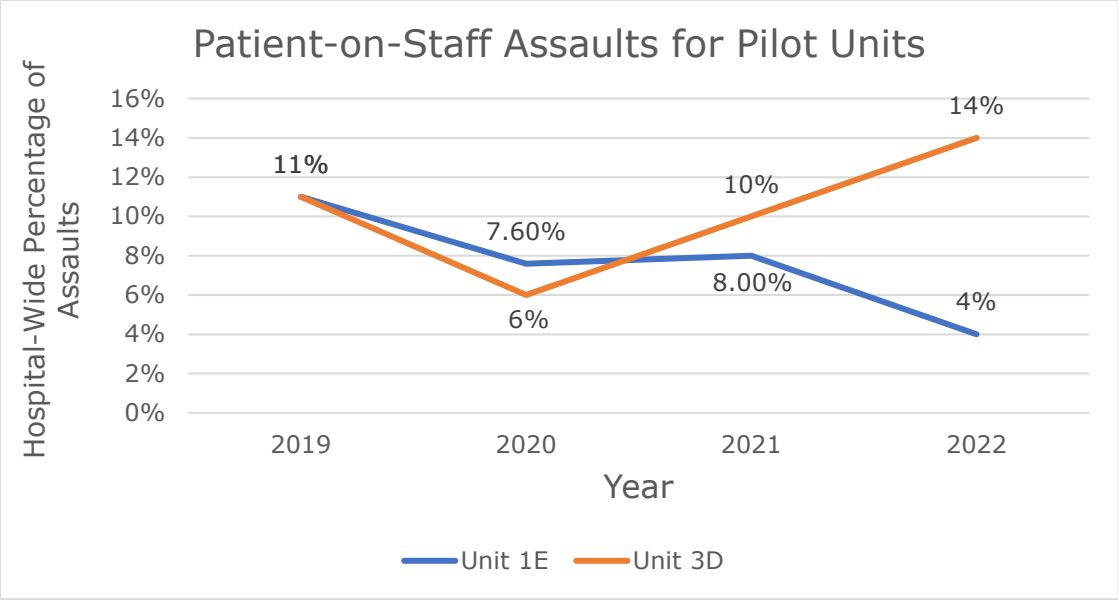
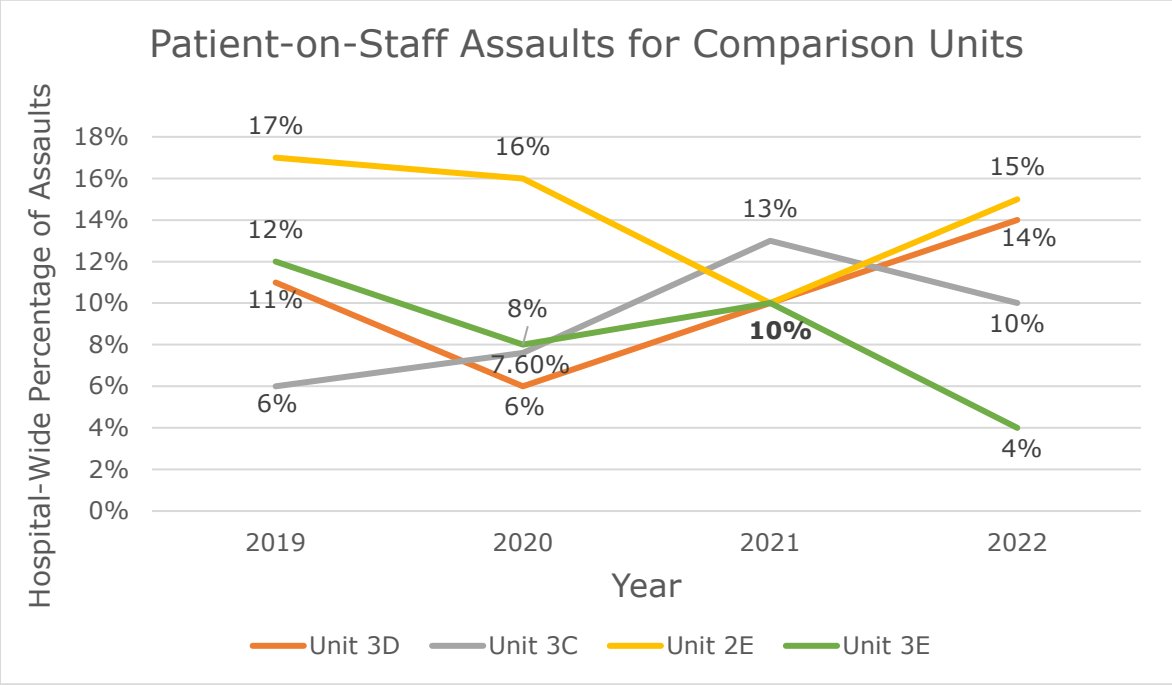


Figure 2 - Patient-on-Staff Assaults for Pilot and Comparison Units by Fiscal Year



Seclusion and Restraint Outcomes

As compared to the patient-on-staff assaults, the seclusion and restraint data is more promising. The project goal was to observe a 20% reduction in seclusion and restraint events for the pilot units during the grant period. The data included spans from fiscal year 2019 through fiscal year 2021. As shown in Figure 3 below, unit 3D had an overall decrease in seclusion and restraint events during the grant period. Unit 1E had similar results with a more linear decline in seclusion and restraint events during the grant period. The findings for the pilot units are promising and suggest that the TIC training may have been effective in reducing seclusion and restraint events.

In addition to examining the pilot units, we examined additional units to allow for comparison of seclusion and restraint events on other units that were not fully trained in trauma-informed care. This data is included in Figure 4. By fiscal year 2021, unit 3D had the lowest number of seclusion and restraint events when compared with the other units. However, these findings should be interpreted with caution as there was variation in unit census between 2019 and 2021 which likely impacted these findings. The data from fiscal year 2022 also provides another reason for caution when interpreting these findings. Fiscal year 2022 has already seen very high rates of seclusion and restraint events. This is proposed to be related to the Omicron surge at the beginning of the year that resulted in significant staffing shortages. At the halfway point in the fiscal year, unit 1E has had 24 seclusion and restraint events while unit 3D has had 62 events. Therefore, it is possible that seclusion and restraint events may not continue to decline in this new fiscal year. However, it is difficult to draw a conclusion at this point due to seclusion and restraint events varying greatly throughout the year.

Figure 3 - Seclusion and Restraint Events for Pilot Units by Fiscal Year

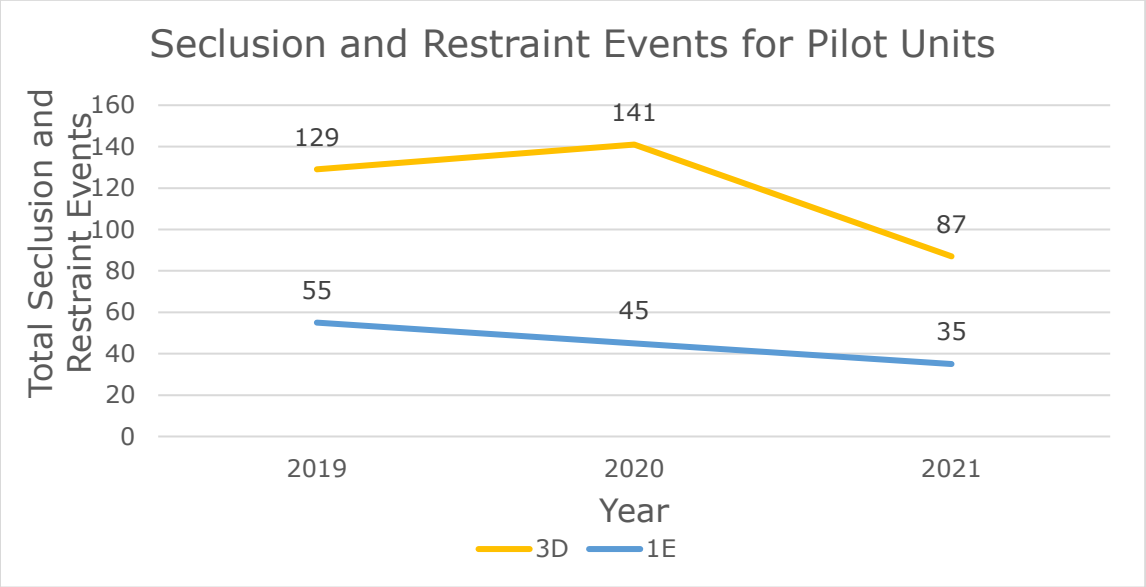
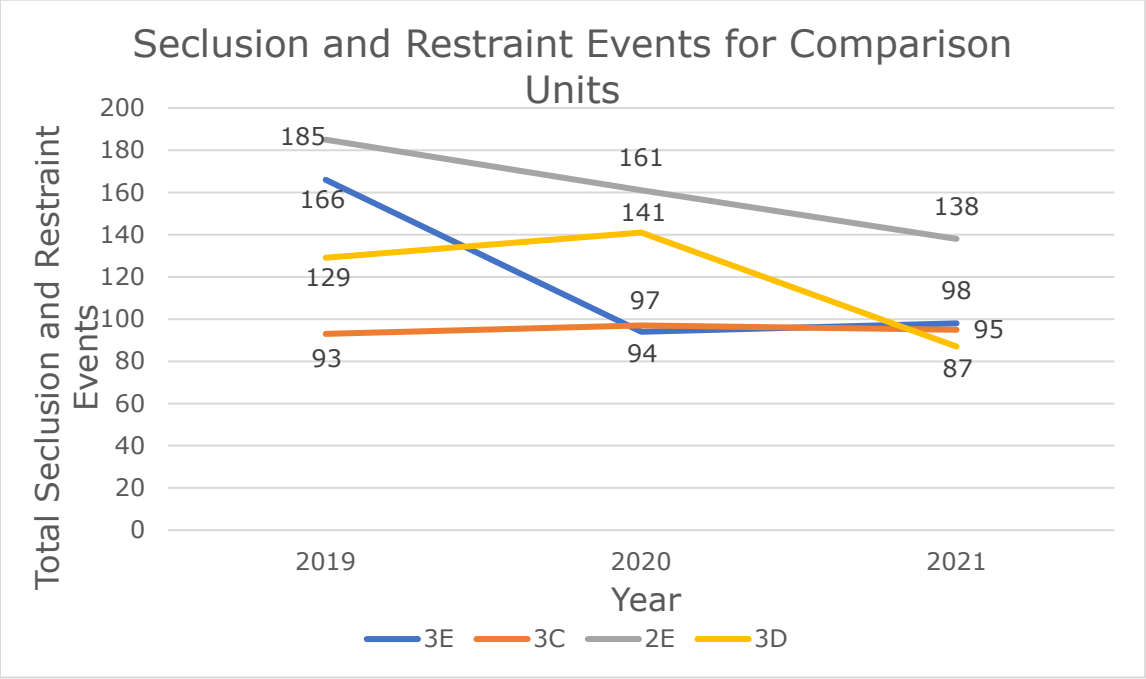


Figure 4 - Seclusion and Restraint Events for Pilot and Comparison Units by Fiscal Year



Feedback from Part 1 and Part 2 TIC Trainings

The trauma-informed care (TIC) training was implemented in two parts: (1) a discussion-based educational seminar on the principles of TIC and trauma-related symptoms, and (2) a practice-based component with escalation prevention skill-

building. Following both training components, surveys were administered to gather staff feedback on the trainings. The findings from these surveys indicate that the trainings were well-received by the staff. During the grant period, 114 staff members received the part 1 training while 48 staff members received both the part 1 and 2 trainings. Following the part 1 training, when asked whether they felt prepared to utilize TIC principles, 92.6% of staff who completed the survey stated that they agreed or strongly agreed with this statement. When asked whether they felt motivated to apply the TIC model at HCPC, 93.3% of staff who completed the survey stated that they agreed or strongly agreed with this statement. The feedback from the part 2 training was even more promising with 100% of staff who completed the survey stating that they felt strongly or very strongly prepared and motivated to apply the TIC model at HCPC. To further highlight the benefits that staff received from the training, below are some quotes from the surveys.

- "Very informative. I learned a lot they were very knowledgeable, gave us a lot of insight! I actually learned a lot here to use in my everyday life and on the job."
- "I can take out the time to understand more [and] communicate with my team so that we can all be on the same page."
- "I enjoyed the training. Very informative. I would like more training like this implemented."
- "I thought that this session provided not only good information but also practical techniques and suggestions for implementing trauma informed care."
- "Helpful in learning alternative ways to reframe patients' behaviors would be helpful to have opportunities to discuss history of aggression by patients (if the attendee agrees) and assess how the event could have been handled differently. That being said, this could be used when debriefing after physical aggression on the unit."

Staff Reports of Adverse Work Experiences

An additional goal of the TIC study was to see a 20% reduction in staff reports of workplace violence and stress as measured via the Staff Workplace Experiences Questionnaire (SWEQ) for the two pilot units from pre-to post-TIC implementation. The questionnaires were administered in September 2019 and again in April 2022. Overall, we did not find significant changes in types of adverse experiences nor the frequency of adverse experiences between those who attended the trainings compared to those who did not attend the trainings.

The lack of findings on the SWEQ may have occurred for several reasons. First, only 8.6% of staff were fully trained (i.e., attended parts 1 and 2) and an additional 20.6% of staff only received the part 1 training. Therefore, the vast majority of staff were not fully trained in implementing TIC procedures and techniques. This was primarily due to a nursing staff shortage during the COVID-19 pandemic. This presented challenges for ensuring adequate unit coverage while staff attended the training. Another reason for the lack of reduction in stressful workplace experiences may be that staff are frequently called upon to assist with seclusion and restraint events on other units, or even temporarily float to new units. Therefore, they may experience or witness events on other units even if they are utilizing TIC principles and seeing a reduction on their own units. This seems consistent with the data above which noted an overall reduction in seclusion and restraint events for the pilot units, but these reductions were not reflected in the SWEQ data. Overall, it seems unlikely that we will see a significant reduction in staff reports of adverse experiences until the vast majority of staff at HCPC receive the TIC training.

Patient Press Ganey Survey Outcomes

Press Ganey data is routinely collected from HCPC patients as part of quality improvement. This data was examined prior to and during the TIC grant period in order to examine changes in patients' reported feelings of safety on the units and their perceptions of staff concern for their emotional needs. The Press Ganey data is only available on a hospital-wide basis and therefore does not allow for examination of individual units. Overall, no significant changes in patient safety felt on the unit and staff concern for emotional needs were noted from pre- to post-TIC implementation as shown in Table 1 below. Despite this lack of change, it is noteworthy that there was not a significant decline in either of these areas over the reported time period due to the COVID-19 pandemic. The pandemic was a time of uncertainty and anxiety for both patients and staff due to frequent COVID-19 exposures and illnesses. Relevantly, the hospital saw an overall increase in patient-on-staff assaults and seclusion and restraint events during this grant period. Despite these many challenges, patients did not report a significant reduction in feelings of safety on the unit nor perception of staff concern for their emotional needs.

Table 6: Press Ganey Data by Fiscal Year

Safety Felt on Unit	Mean
FY 2019	84.815
FY 2020	84.76
FY 2021	83.93
FY 2022 (September 2021 – March 2022)	83.79
Staff Concern for Emotional Needs	-
FY 2019	85.54
FY 2020	86
FY 2021	85.83
FY 2022 (September 2021 – March 2022)	85.34

Challenges

Initially, TIC train the trainer was going to be held in April or May 2020, but the onset of the COVID-19 pandemic delayed the execution of this training to September 2020, and an extension on the project term was submitted in June 2020. Additionally, the train-the-trainer training had to move from an in-person format to a virtual venue.

Initially, Virtual Reality (VR) simulation was going to be used to practice TIC principles with feedback. Virtual reality simulation incorporates wireless VR headsets whereby participants experience an immersive simulated patient encounter through a training platform. SimX agreed to develop custom scenarios according to our inpatient setting and acute patient population. Despite the best efforts by the project team, SimX was unable to return simulation scenarios in a timely manner. The company stated there was a backlog due to the COVID-19 pandemic. As delays with SimX continued, the project team evaluated whether to forgo TIC Part II or consider an alternative format for training. Ultimately, the team made the decision to pivot to role plays using clinical case vignettes similar to those developed for VR, in lieu of VR simulation.

Other challenges included scheduling Part 2 training for the night shift staff. The pilot units were understaffed and did not have appropriate coverage to allow staff to attend training within the timeline parameters. In the future, we will schedule all

shifts with the HWE team who will continue the TIC trainings hospital-wide in a one-day, 4-hour training per year. During the pandemic, the hospital was chronically understaffed, staff turnover was high, and no improvements were noted in staff's perception of safety, value and other job satisfaction indicators as suggested by the SWEQ from the current study. The empirical evidence suggests that these factors are closely related to patient-on-staff assaults.

The Chief Quality Officer approved the PPT protocol and instructed our team to work closely with the nursing department to implement the protocol in the units. However, this was not possible given staffing shortages and demands on nursing leadership that were experienced at the hospital due to the COVID-19 pandemic. TIC class sizes had to be smaller than anticipated to maintain social distancing and time dedicated to training subsequently increased. Therefore, the investigators dedicated more hours than anticipated on trainings and this limited availability for guiding the nursing department in the implementation of the PPT protocol.

Aside from three hospital leaders, very few hospital leadership was trained in TIC and no nursing leadership registered for training. Thus, staff accountability for applying TIC interventions in their patient encounters was a challenge.

Lastly, the degree to which psychiatric acuity secondary to COVID-19 infection may have affected patients' behaviors and subsequent patient-on-staff assault/injury is questionable and may be a variable to investigate in the future.

Impact

Ultimately, for TIC to be fully efficacious, a comprehensive cultural shift must occur within the hospital setting in every discipline, unit, and team. Given the aforementioned barriers, and the relatively short two-year period of the current project, that culture change has not yet been reached at UTHealth-HCPC. Rather, the evolution has merely begun, and it is anticipated that, with our sustainability plan, the culture change will be measurable in the future. Given the baseline data that we now have, we have the opportunity to measure outcomes across time for the foreseeable future.

Lessons Learned

Leading a hospital-wide culture shift in two years was highly ambitious. The team has learned that patience, resilience, and perseverance are the qualities that will allow us to continue this project into the future and observe measurable outcomes. Although the previously identified outcome measures were not achieved, we were able to implement a TIC curriculum that will be sustained by our HWE, and staff

have offered extensive positive feedback about the efficacy of TIC in their day-to-day patient care.

An important lesson learned is related to the duration of the TIC training. In an effort to ensure that staff training and refresher trainings do not interfere with patient care and cross coverage needs, the TIC training will be 4 hours in duration and will include TIC Part I and II content.

Lastly, inpatient staff reported they desire a program like TIC to improve morale, increase staff sense of safety, decrease the "us versus them" culture, and enhance their patient care toolbox with relevant interventions. This finding was evidenced in the feedback surveys completed by staff following TIC trainings.

Sustainability

To continue the implementation of the project after the grant term ends, study personnel met with the Hospital Wide Education (HWE) department. HWE is responsible for new hire orientation, CPR certification and Satori Alternatives to Managing Aggression (SAMA) trainings for all hospital employees. Two training specialists were trained as trainers in September 2020, and two new training specialists will be trained by study personnel in June 2022. After this training, they will be observed conducting training, provided feedback, and provided another opportunity to train a cohort while applying received feedback. After they have been approved to lead trainings independently, the training specialists will train employees from the UTHealth Houston Behavioral Sciences Campus, and random fidelity checks will be conducted by study personnel.

Budget

Final Expenditure Report

A total of $80,944 of the $96,954.00 was utilized during the grant period for the execution of the project. $8,198.92 was used for the NASMHPD Train-the-Trainer training and material supplies needed for the TIC trainings. The remainder and majority of the award was allocated to cover the effort time of employees attending TIC trainings. The remaining funds were earmarked for indirect costs. There was a total of $16,010 remaining on this project that was due to a lower cost in fringe/benefit costs than what we projected. There was also a remaining balance in indirect costs since expenses related to training didn't incur indirect costs as we initially expected.

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Appendix F. Final Project Report as submitted by University of Texas Medical Branch Galveston

Executive Summary

This project consisted of an innovative combination of interventions which together formed a program aimed at reducing the incidence and scope of verbal and physical violence against nurses. This program, referred to as the CEASE trial was used to establish and maintain therapeutic rapport, stop the escalation of aggression between individuals and prevent negative consequences such as compassion fatigue and loss of trust. CEASE is an acronym outlining the interventions which consisted of communication and de-escalation training (C), emotional and social intelligence coaching (E & S), auto-ethnographic art, narrative inquiry and storytelling by respondents (A) and ethical debriefing (E). Although drastically modified and reduced in scope due to COVID, this multi-faceted approach was well-received in the attempts to help nurses, healthcare teams and patients and family members learn to recognize and appropriately respond to anxiety and escalating behavior before it turns violent.

Report Narrative

Project Description

To implement and assess the impact of voluntary CEASE trial interventions on the frequency and severity of workplace violence, compassion fatigue and compassion satisfaction.

Implementation Methodology

Nursing Service personnel were given the chance to participate in any or all CEASE intervention options as able. Baseline levels of aggressive incidents, participant emotional and social intelligence (EI/SI), knowledge of de-escalation training, compassion fatigue and compassion satisfaction were obtained. A pre and post-test, provided through the Crisis Prevention Institute (CPI) measured de-escalation knowledge.

The initial plan to implement in March of 2020 was put on hold due to our prison hospital's rapid escalation of COVID patients. Additional floors had to be renovated to accommodate rapid prison ICUs and nursing staff were floated to the prison hospital to work. Plans to prepare for a civilian side escalation began as well. In

person trainings and sessions were discontinued and nurses were unable to attend any additional training due to testing and patient care. This pattern lasted for 24 months impacting our sample and interventions. Our team did shift to an emphasis on ethics rounding on actual floors and ICUs. We implemented elements of crisis prevention training, particularly verbal de-escalation, on the go during these rounds and often during actual patient/family/staff altercations as disagreements over vaccines and illness severity rose. About 50 people participated in emotional and social intelligence training in modified formats. We held support groups weekly at all of our hospitals as well as in our prisons for staff and faculty. We reached over 500 people during these groups. Brief elements of emotional and social intelligence were interspersed as topics for the groups. We continue these groups today. We did receive approximately 20 stories/pieces of art depicting the impact of COVID as well.

Project Goals and Evaluation*:*

- Reduce the frequency and severity of physical workplace violence at the UTMB Galveston campus by 10% (Jennie Sealy, John Sealy, Correctional Managed Care hospitals).
  - OUTCOME-met, physical violence during this time did show a decrease of over 10%; approximately 80 incidents at baseline and 60 incidents in 2021; still working on categorizing severity
- Obtain baseline measures of the frequency and severity of verbal workplace violence at the UTMB Galveston campus
  - OUTCOME-met, actually obtained for all campuses not just Galveston, baseline of 36 reported incidents in 2020 and then 15 in 2021: still working on categorizing severity
- Reduce the frequency and severity of verbal workplace violence at the UTMB Galveston campus by 10%
  - OUTCOME-met, as noted above; in fact, Galveston campus was only campus that did decrease incidents overall (see other campus statistics below).
- Nurse participants will show aggregate improved knowledge of behavioral escalation and de-escalation techniques as evidenced by statistically significant improvement in pre and post test scores in the CPI training.
  - OUTCOME-met, all CPI participants who received certification (~200) had statistically significantly improved scores from pre/post on knowledge of de-escalation; satisfaction scores for course and content averaged 4.7 out of 5

- Obtain baseline measures of the frequency and severity of physical and verbal workplace violence at the League City, Clear Lake and Angleton UTMB hospitals
  - OUTCOME-Met, while verbal violence decreased overall, it increased at several campuses and particularly in Eds with the exception of Galveston
- Correlate and perform multiple regressions on CEASE trial interventions (cumulative and individual) with compassion satisfaction, compassion fatigue, EI/SI, nurse satisfaction and retention, incidents and severity of workplace violence and patient satisfaction to determine which interventions or which combination of interventions are linked to the most significant positive outcomes (control for # of nurses trained from each hospital/area)
  - OUTCOME- partially met, not enough interventions to obtain valid multiple regressions; did note significant correlations between retention, nurse satisfaction and compassion fatigue overall; did note a significant increase in requests for CPI training from non-nursing staff

Impact

Only a small percentage of our nurses (~20%) have taken the entire CPI course and are certified; most of those have been on the Galveston campus where workplace violence did decrease; rounding and small hands-on tips and demonstrations for communication, social and emotional intelligence were well-received by all. Of note, many of our interventions were received by travel nurses as we had a large percentage of those during the grant period due to COVID. It also must be noted that our data reflects only those incidents that staff and others reported in the event reporting system. It is entirely possible there is more verbally aggressive behavior than is reflected in the event reporting system. We will continue to examine how to capture more of this. Themes from support groups included being "tired and weary and confused and sad," as well as "teams did strengthen, and everyone pitched in."

Lessons Learned

We must adapt the 4th aim in healthcare which is caring for the well-being and increasing resilience of our healthcare teams paying particular attention to empathy, connection, communication skills, work/life balance, positive psychology and self-care.

Sustainability

In part due to our work and partnerships during this period, we have obtained a chief wellness officer and team as well as a specific wellness position for our prison employees. We are a part of this team and will continue and expand the core work. The campus police have agreed to promote CPI training during their active shooter and short de-escalation presentations as well and encourage teams to have at least 2 people fully trained. I continue to analyze the individual narratives from the workplace violence log incidents and will use these to augment hands-on training.

Budget

Narrative

We only used the salary portion of the grant for Dr. Ferroin's work in ethical rounding. We had requested additional books for CPI training and emotional and social intelligence instruments but due to travel nurses and staffing challenges, we had a smaller sample size than anticipated.