

# **Safety and Health Investment Projects**

## **FINAL REPORT REQUIREMENTS**

The purpose of the final report of your SHIP project is to:

1. Evaluate and document the achievements, challenges, and shortcomings of the project for the constructive benefit of others interested in learning from SHIP projects; and
2. Provide the Division of Occupational Safety and Health with information that shows:
  - a. The outcomes specified in the project application were met; and
  - b. The grant was used for the purpose(s) for which it was approved and in accordance with relevant WAC rules and any special conditions or requirements; and
  - c. The outputs of the project have been disseminated as specified in the application.

The report format has four sections:

1. Cover Sheet
2. Narrative Report (part I)
3. Financial Information (part II)
4. Attachments (part III)

Please provide complete and detailed information in the final report. If you have questions, please call your SHIP grant manager.

**REMINDER!!!:** All products produced, whether by the grantee or a subcontractor to the grantee, as a result of a SHIP grant are in the public domain and can not be copyrighted, patented, claimed as trade secrets, or otherwise restricted in any way.

SAFETY AND HEALTH INVESTMENT PROJECTS  
FINAL REPORT

**Preventing Violence Against Emergency Department Healthcare Workers: A  
Prospective Needs Assessment to Inform Effective Intervention**

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[Grantee] is solely responsible for the content of and views expressed in this report and  
related materials unless they have been formally endorsed by the Washington State  
Department of Labor and Industries.

## PART I

### *Narrative Report*

#### **Abstract:**

##### **Background**

Violence in the emergency department (ED) impacts more than 1 million workers, with over 78% of ED healthcare workers identifying at least one incident of physical assault by a patient or patient's visitor during their career. The negative impact of WPV on healthcare workers is significant and costly. Direct costs related to WPV exceed one billion dollars and include security, medical, and legal expenses as well as costs related to missed work. The full extent and breadth of healthcare WPV are unknown. Without a complete and accurate understanding of WPV events, it is challenging to design effective interventions focused on WPV prevention.

##### **Objective**

To complete a prospective needs assessment for emergency department (ED) health care workers (HCW) in regard to workplace violence (WPV)

##### **Methods**

Employed a mixed-methods concurrent triangulation design strategy to describe and understand WPV as it occurs in EDs and its impact on HCWs.

- Develop data collection tools for prospective analysis of ED WPV events
  - Design and employ an Observation Tool for describing and cataloging WPV as it occurs in the ED
  - Design and employ an Interview Tool for interviewing HCWs
- Capture direct observations of WPV in 3 distinct emergency departments
- Conduct interviews in the acute time frame after an ED HCW experiences WPV
- Identify and pilot previously validated measures to assess important psychosocial outcomes of ED WPV

##### **Results**

107 WPV events were observed by the study team. The events included both verbal and physical aggression. 70% of all events included an element of physical aggression. Demographics of events and involved workers were captured. Interviews were conducted with 23 HCWs who experienced WPV immediately after the event witnessed. Several domains emerged from interviews: pervasiveness of WPV, coping mechanisms employed by workers, and short- and long-term impact of WPV. Interviewees referenced needs for preventing and mitigating WPV that included time for immediate recovery, peer debriefing, team-based intervention and a shared mental model for WPV approaches. Anxiety levels of assaulted workers were not significantly different than non-assaulted peers. Participants did not exhibit Acute Stress Reaction Disorder 2-6 weeks after assaults. Burnout was a prevalent theme that emerged from interviews common among victims that warrants future exploration.

## Purpose of Project:

The purpose of this project was to understand the true impact of WPV on ED HCWs.

To accomplish this, the project team sought to:

- (1) Understand the problem of WPV through literature review
- (2) Develop data collection tools for prospective analysis of ED WPV events
- (3) Describe and catalog the problem in 3 diverse ED settings in the Puget Sound region using prospective, quantitative methods
- (4) Assess the impact and needs of HCWs experiencing this phenomenon.

## Statement and Evidence of the Results:

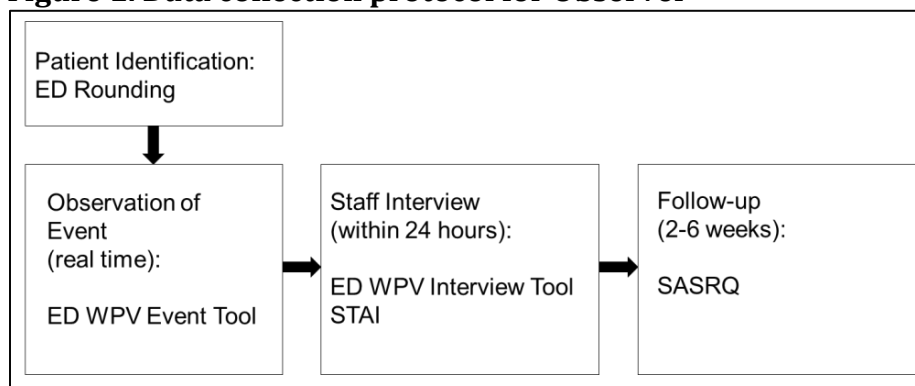
### Objective 1 - Literature review of Healthcare Associated Workplace Violence

We completed an extensive literature review, with special focus on WPV occurring in the Emergency Department. The results are attached (**Appendix 1**).

### Objective 2 - Develop data collection tools for prospective analysis of ED WPV events

Based on Objective 1, there was no existing tool designed to describe or catalog WPV events as they occur. Using a modified Delphi method, and the outcome of Objective 1, we designed an Event Tool and an Interview Tool used to identify prospective WPV events, describe these events objectively as they occurred, and then catalog demographics of aggressor, victim, environmental and outcome characteristics. The Interview Tool is a semi-standardized approach to interviewing HCWs who experience WPV with a goal of identifying the worker's response to the violence, self-identified needs related to WPV, and the impact of the violence on the HCW. These Tools are included in **Appendix 2**.

**Figure 1. Data collection protocol for Observer**



### Objective 3 - Describe and catalog the problem in 3 diverse ED settings in the Puget Sound region using prospective, quantitative methods

**Table 1. Emergency departments' respective demographics.**

Variable	Emergency Department		
	Site 1	Site 2	Site 3
Description	Trauma center	University medical center	Public community center
Hospital beds, no.	413	450	303
ED beds, no.	48	23	55
ED visits/year in 2017	63,218	28,758	81,539
ED admissions, %	21	24	14
Median length of stay, hours	4.58	4.85	3.0

In order to capture WPV as it occurred utilizing a trained observer, we needed a process in which to systematically and objectively identify WPV. Please see Figure 1 for this process. Rather than rely solely on the observer to identify potential for WPV, we elected to utilize the care team as the predictor for potential WPV. Although this may introduce an element of bias, we thought this was more likely to be accurate as the care team (including medical assistants/technicians, registered nurses, advanced practice providers and physicians) had the benefit of clinical and situational expertise that our trained observer would lack. The observer was instructed to round hourly with care teams in the ED and ask them if they had any patients or patient associates who exhibited any of the following 4 characteristics: verbal aggression, physical aggression, clinical intoxication or “you are generally concerned could become violent?”, which was noted as care team concern. Potential locations for WPV were identified by the care team, and the observer would position themselves near these areas. If a person was identified by the care team as already being violent, observation would begin using the Event Tool, Figure 2 (Appendix 2). If any of the 5 types of verbal aggression or 17 types of verbal aggression were witnessed by the observer, an Event was counted as ongoing and data was collected. In some cases, other was marked by the observer, and for these events, the observer was instructed to collect specific data. These events were recounted to one of the study PIs within 24 hours and a decision was made as to whether this event would be included as a WPV event.

Data was collected in 3 distinct EDs in order to sample in a variety of environments serving different patient populations with distinct personnel staffing each ED. We sought to include a variety of sites for enrollment to ensure validity of data and applicability of results to a larger population. See Table 1 for ED demographics.

One hundred eighty-four persons were screened in as having the potential for violent behavior based on care team response or as witnessed by an observer (Figure 3). Of these, one hundred and seven workplace violence events were agreed upon by the study team to qualify as Type 2 workplace violence based on the National Institute for Occupational Safety and Health (NIOSH) definition. The events per site are depicted in Figure 4. These steps of enrollment and their corresponding numbers of patients are depicted in Figure 5. The events included both verbal and physical aggression. 70% of all events included an element of physical aggression. Demographics of events and involved workers (Figures 6, 7,

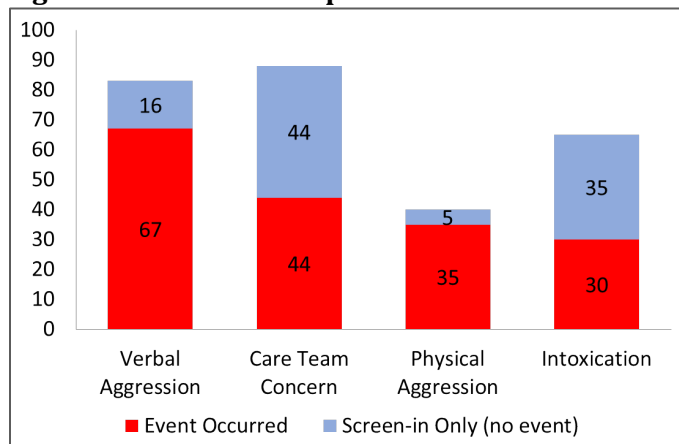
and 8) were captured. Of note, we reviewed the safety databases at all 3 sites for reports matching our observed episodes of WPV during the same time frames. We found that of the 107 events witnessed, 4 were reported through official reporting avenues, or 3.7% of witnessed events. This is lower than reported in the literature, although still consistent with known themes of underreporting of WPV.

We conducted analysis on crowding as a variable with respect to WPV (Appendix 3). There was no demonstrated increase in WPV events on crowded times v. non-crowded times, However, this is limited by the selection bias for crowded times to collect data, as we aimed to capture as many WPV events as possible at study outset and thus collected data during peak ED busy times, as predicted by existing data on visits per hour at each site.

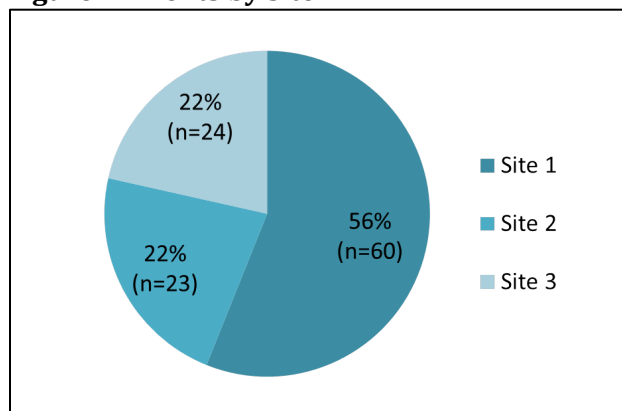
**Figure 2. Event tool**

PROVE Event Tool									
Event ID: _____		REDCap ID: _____		Data Collector: _____					
Hospital: HMC UWMC VMC PRMCE				Location/Bed: _____					
Date/Time Screening Began _____				Date/Time Event Began _____		Estimated? Y/N			
Date/Time Screening Ended _____				Date/Time Event Ended _____		Estimated? Y/N			
Aggressor Type: Patient Visitor UNK				*Screen-in: Verbal Physical Intoxicated Care Team Concern					
RA witnessed: Verbal Aggression Physical Aggression Neither									
*End disposition: D/C Admit Left ED In ED PES Other _____									
<b>Event was:</b> <input type="checkbox"/> Entirely observed by RA <input type="checkbox"/> Partially observed by RA <input type="checkbox"/> Entirely reported to RA <input type="checkbox"/> Partially reported to RA		<b>Aggressor gender:</b> M F UNK		<b>*Aggressor arrival mode to ED</b> Ambulance _____ Other _____ Walk-in _____ Unknown _____		<b>Day/Time Admitted to ED</b>			
<b>Who experienced initial assault?</b> <input type="checkbox"/> Physician (resident/attending) <input type="checkbox"/> Nurse <input type="checkbox"/> MA <input type="checkbox"/> Security <input type="checkbox"/> Paramedic <input type="checkbox"/> Environmental Services <input type="checkbox"/> Volunteer <input type="checkbox"/> Other: <input type="checkbox"/> Unknown		<b>Primary language English?</b> Y N Nonverbal UNK		<b>*Restrains placed?</b> Y N UNK Physical Before During After UNK Chemical Before During After UNK		<b>*Screened/searched before event?</b> Y N UNK <b>*Weapons found?</b> Y N UNK <b>*When?</b> Before During After UNK <b>*Type(s)</b> Gun Knife Club/bat Mace Taser Razor Brass knuckles Sharp object Other:			
<b>Verbal Aggression</b> <input type="checkbox"/> Yelling at care provider <input type="checkbox"/> Threatening <input type="checkbox"/> Cursing <input type="checkbox"/> Lewd/explicit statements <input type="checkbox"/> Derogatory statements <input type="checkbox"/> Other:		<b>How many of each responded/ were affected?</b> <input type="checkbox"/> Resident physician <input type="checkbox"/> Attending physician <input type="checkbox"/> APP (ARNP/PA) <input type="checkbox"/> Nurse <input type="checkbox"/> MA <input type="checkbox"/> Security <input type="checkbox"/> Paramedic <input type="checkbox"/> Environmental Services <input type="checkbox"/> Volunteer <input type="checkbox"/> Other: <input type="checkbox"/> Unknown		<b>*Did other patients respond ?</b> Y N UNK					
<b>Physical Aggression</b> <input type="checkbox"/> Threatening gestures <input type="checkbox"/> Kicking <input type="checkbox"/> Punching <input type="checkbox"/> Biting <input type="checkbox"/> Spitting <input type="checkbox"/> Scratching <input type="checkbox"/> Slapping <input type="checkbox"/> Pushing/shoving <input type="checkbox"/> Flailing <input type="checkbox"/> Sexually inappropriate bx <input type="checkbox"/> Removing IVs <input type="checkbox"/> Staring <input type="checkbox"/> Pacing/refusing to stay in bed <input type="checkbox"/> Leaving assigned care area <input type="checkbox"/> Approaching team repeatedly <input type="checkbox"/> Destroying property <input type="checkbox"/> Cannot clearly define <input type="checkbox"/> Other:		<b>Was aggressor in hallway during event?</b> Y N UNK <b>Was aggressor in psych area during event?</b> Y N UNK <b>*How long in bed?</b> Estimated? H: M: <b>*How long in ED?</b> Estimated? H: M:		<b>*Response system activated?</b> Y N UNK <b>*Closed loop?</b> Y N UNK <b>*Response time?</b> Estimated? H: M:					
		<b>Change in environment 30 minutes prior?</b> Y N UNK		* Ask Care team					

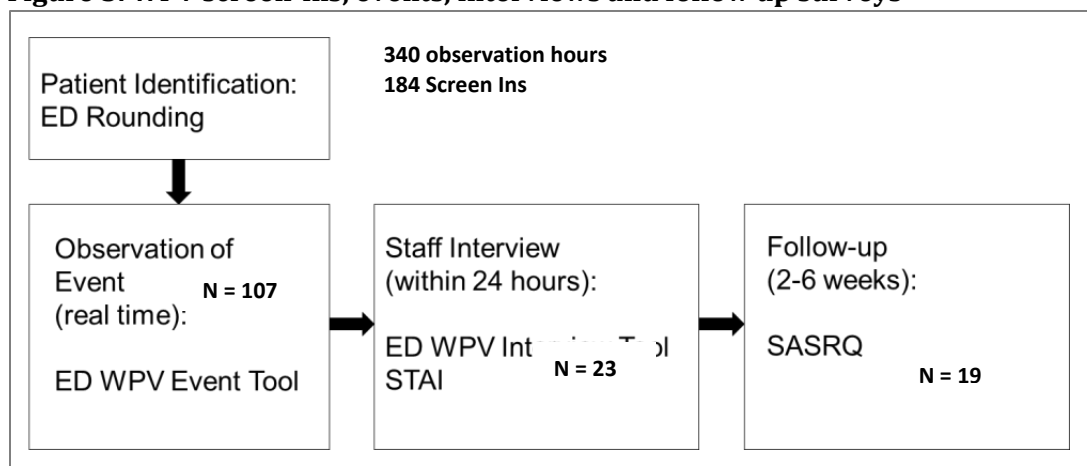
**Figure 3. Screen-ins for potential violent events and corresponding triggers**



**Figure 4. Events by site**



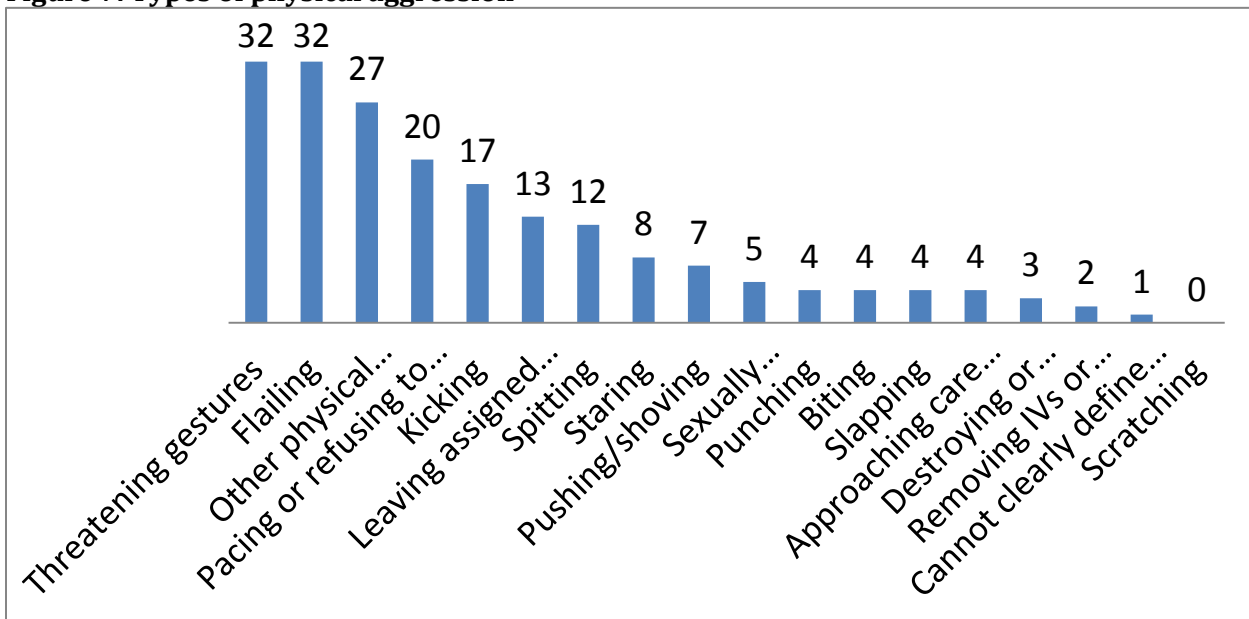
**Figure 5. WPV screen-ins, events, interviews and follow up surveys**



**Figure 6. Types of verbal aggression**

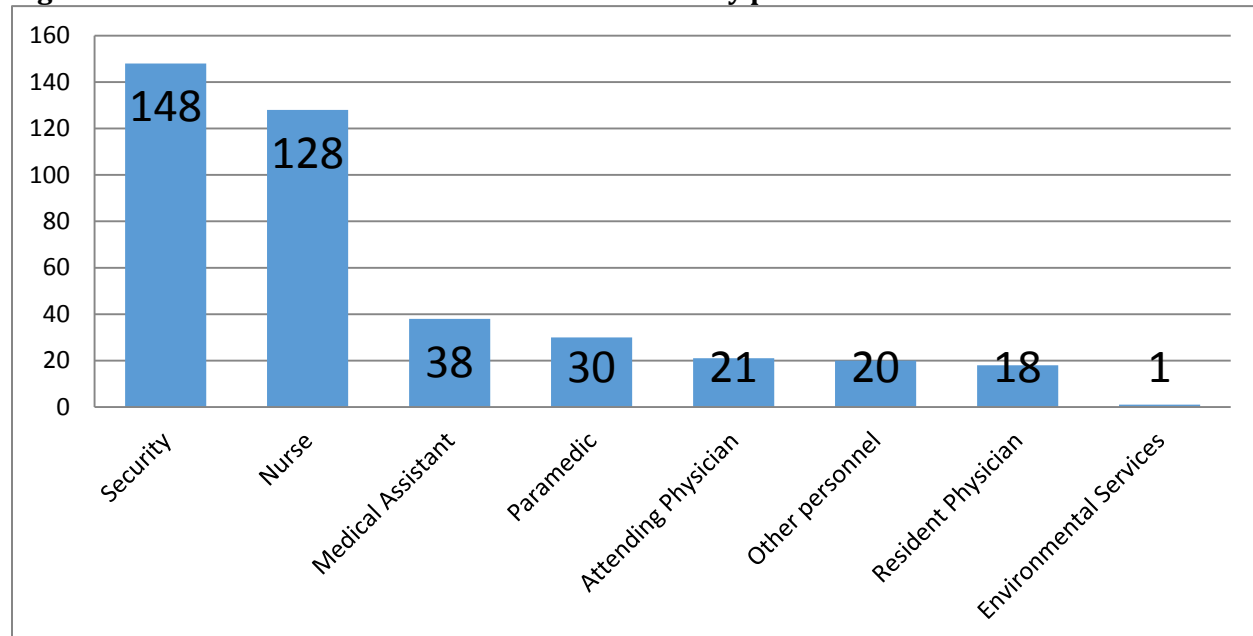


**Figure 7. Types of physical aggression**





**Figure 8. Staff involvement in observed WPV events by profession**



**Objective 4 - Assess the impact and needs of HCWs experiencing this phenomenon.**

Twenty-three HCWs were interviewed immediately after they were witnessed to be involved in these WPV events. Interviewee demographics are presented in Table 3. Thirteen women and ten men were interviewed, the median age was 31, with a median of 9 years of experience in healthcare and 5 years of experience working in an ED. The majority of interviewees were registered nurses (RNs; 39%). All participants (n = 23, 100%) reported they had experienced WPV prior to the current event, and all but one participant (22/23; 96%) had some formal training in dealing with WPV. In follow up surveys, 12 (52%) participants stated they had reported the event; with three of the 12 (13% total participants) entered the event in the formal institutional database. Seven (30%) participants notified their supervisor during the shift that the WPV event occurred, and two (52%) reported the incident to the police. Semi-structured interviews and surveys to ascertain anxiety were administered. The semi-structured interview format is found in Appendix 4.

We hypothesized that anxiety and post-traumatic stress disorder might be present in higher levels in assaulted HCWs. Thus, we selected previously validated instruments used in the assessment of these conditions to administer to our interviewees, the State-Trait Anxiety Inventory (STAI) (Appendix 5), designed to be administered to assess current anxiety levels, and the Stanford Acute Stress Reaction Questionnaire (Appendix 6), designed to be administered 2-6 weeks following a traumatic event. Anxiety levels of assaulted workers were not significantly different than non-assaulted peers, and both were similar to typical anxiety scores on adults in an average work environment, according to internal test validity measures. Participants did not exhibit Acute Stress Reaction Disorder

2-6 weeks after assaults based on their scores on the SASRQ. Reasons for this may be that as WPV events were so prevalent among workers, that all workers in our population had similar anxiety and stress reactions regardless of the acuity of the event. Also, as these events were perceived to be typical by interviewees, their responses may have blunted over time in healthcare and with exposure to WPV. Our sample size of interviewees did not permit for analysis of these scores with respect to years in healthcare; this would be an interesting consideration for future work.

During interviews there were four general domains that were discussed: (1) pervasiveness of WPV in the ED setting, (2) coping mechanisms employed after WPV events, (3) short- and long-term impact of WPV events, and (4) perceived barriers to decreasing incidents and impact from WPV. Please see Appendix 7 for these domains and an expanded table of representative quotations. Each domain contained themes and subthemes that further describe the experiences and perceptions of healthcare workers experiencing an acute WPV event.

### **Pervasiveness of WPV events in the ED**

Healthcare workers expressed that WPV is a standard part of the job with incidents occurring almost every shift. Participants described a “normalization” of violence, that it is a component of their job and to be expected. One participant noted that it was a downside of his/her job, similar to having to work weekends and holidays. WPV is treated as a concept that is inevitable, *“it’s not even like a maybe; it’s like a when. When will it happen. It’s not an if.”* They also noted that similar behavior would not be tolerated elsewhere, that what happens regarding WPV is traumatic and would be shocking in other settings. While normal in the ED, behavior that constitutes WPV is not normal in general society.

Participants described a high frequency of events, with verbal abuse occurring daily during shifts. *“Daily there’s something where somebody’s at risk”*. Participants often described the use of derogatory language by patients as well as yelling and screaming. One participant stated *“I got used to early on being called a bitch and being called names and being threatened and lots of threats.”* While most participants noted that verbal abuse did not impact them, several noted that certain verbal behaviors would trigger their anger or frustration. Similarly, participants noted that physical injury was a real and present threat for them. *“You know that any day you could get hurt.”* They noted that kicking and spitting is a regular occurrence, thus knowing how to deal with it is an integral part of their job. One relatively junior healthcare worker interviewed noted *“nobody’s spit on me yet . . .”* but that they expected to experience such behavior once in their position for more time.

Healthcare workers often expressed powerlessness and a sense of fatalism when discussing the pervasiveness of WPV in their jobs. They used phrases such as *“that’s the kind of world we live in”* and *“this is unfortunately what we have to deal with.”* During interviews specific patients with a high risk for violence were described, with the note that we in the ED *“have to take care of these people, so it’s gonna happen”*.

### **Coping mechanisms**

Interviewees were questioned specifically about employed coping mechanisms. Responses differed amongst ED HCWs dealing with WPV, although several common themes were

identified. HCWs identify adaptive avoidant coping strategies to deal with WPV events, such as spending time with friends, leaving the physical space of employment when not working, going to “spiritual centers,” exercise, playing video games, etc. Another referenced coping mechanism is depersonalizing relationships with patients, using language to suggest that patients are regarded as “other” than the worker or their peers. HCWs also identify direct-approach coping strategies to deal with WPV events, specifically approaches to processing these experiences, either through self-reflection or through group-reflection, also known as a “debrief”. Often while relaying these types of approaches, HCWs describe intensified intake and processing of threatening events, attempt to increase understanding or resourcefulness related to events. Framing the importance of the event as minimal and not personal is a common coping strategy. Finally, healthcare workers acknowledge the use of maladaptive coping strategies, such as substance use.

### **Short and long-term impact of WPV**

Short-term impacts described were both physical and emotional. Physical impacts ranged from mild to serious, with the most serious including a meniscal rupture in the knee and a fractured arm. Frequently, interviewees described the physical impact of feeling fatigued or “wiped out” after these encounters. Interviewees also referenced feeling more “on edge” about WPV and the potential for violence outside of work, with heightened sensitivity for danger in settings where others might not feel as concerned. Emotional impacts were broad but can be best grouped into positive and negative emotional responses. Empathy for the aggressor was expressed in approximately 50% of interviews, often linked with attempts to rationalize the violent behavior as part of a response to a complex interplay of systems factors; i.e. inadequate mental health care access, hospital crowding, mental illness sequelae, substance abuse, socioeconomic factors, etc. Negative emotional responses were expressed by the majority of interviewees, and were varied, including fear, sadness, isolation and powerlessness. The most frequently expressed negative emotion was anger. Anger or frustration was directed at the aggressor, colleagues, supervisors, the healthcare system or the broader socioeconomic structure.

The overwhelming long-term impact described by interviewees was “burnout.” Burnout was identified *a priori* as a potential theme, however the high prevalence of this theme among our interviewees was unexpected. Burnout as described by Maslach et al is a complex psychological phenomenon comprised of emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment that negatively impacts one’s ability to provide quality care and service (Maslach et al, 1978). Burnout has been noted to be pervasive amongst healthcare providers and has been associated with increased medical errors, lower patient satisfaction, diminished provider emotional and physical wellbeing, and increased absenteeism and job turnover. Nearly every interviewee alluded to this concept, either directly or in describing the personal impact of WPV.

### **Perceived barriers to decreasing incidents and impact from WPV**

HCWs described local and systemic barriers to preventing WPV events. These included a lack of mental health services for patients, a perception of insufficient security services to prevent or deter events from occurring, the absence of a clear plan specific to the situation, and finally the difficulty balancing patient rights, specifically regarding autonomy, with staff

safety. Please see Appendix 8 for complete list of barriers and facilitators to workplace safety with representative quotations from interviewees.

### **Environmental Risk Factors**

OSHA developed a checklist to identify situations that may place workers at risk of assault (OSHA, 2016). The study team identified key environmental risk factors from OSHA's list and the literature. A number of different departments at each site (e.g. environmental health and safety, security, and staff responsible for implementation of workplace violence prevention programs) were contacted to identify the environmental risk factors and hazard controls. All sites reported similar strategies for preventing workplace violence within their institution including a workplace violence prevention program plan, policies on weapons, room layouts that allow access to alarms, bright effective lighting, locked doors during evening hours, security measures and varying levels of surveillance systems (e.g. security cameras, panic buttons/duress alarms), buddy systems for leaving facility, marked egress routes, and use of seclusion rooms. Several differences between the sites are notable, such as the policy for dealing with sick call outs, requirements for dealing with high-risk patients, and the level of co-worker/supervisor support during an incident. For example, one site established a crisis response team that responds and follows a code procedure for specific threats or high-risk patients. Two sites have a flagging system for communication to identify high risk patients. One site has a policy to page out all sick calls at incentive pay. This information especially the use of controls to prevent injury should be included during data collection of interviews and observations in the future.

### **Recommendations for prevention and mitigation of WPV**

Upon completion of this project, review of the data and reflection, the study group has comprised a list of recommendations for prevention and mitigation of WPV. This set of recommendations is based on literature review, direct observations, interviewee requests, review of themes from interviews and surveys, and discussion with the advisory board.

The recommendations are as follows:

- Time for immediate recovery following a WPV event
- Peer debriefing
- Team-based interventions
  - Simulation
  - Policy design
  - Strategic planning
- Ensuring staff are not physically isolated
- Chemical and physical restraint
- Ability to physically distance self from patient and patient from others
- Strong security presence and response
- Setting limits regarding acceptable patient behavior
- Assess and control environmental and work organization risk factors
- Incorporate a continuous process improvement plan for workplace violence prevention that includes both management and labor accountability

**Table 3. Interviewee characteristics (N=23)**

	Total, No.	(%)
<b>Sex</b>		
Female	10	43
Male	13	57
<b>Age by group, y</b>		
20-29	7	30.4
30-39	10	43.5
40-49	2	8.7
50-59	4	17.4
<b>Age, range</b>	23-53	
<b>Age, median</b>	31	
<b>Years in Health Care</b>		
0-4	5	21.7
5-9	7	30.4
10-14	6	26.1
15-19	2	8.7
20-24	2	8.7
≥25	1	4.3
<b>Years in Health Care, range</b>	1-26	
<b>Years in Health Care, median</b>	9	
<b>Years in ED</b>		
0-4	11	47.8
5-9	7	30.4
10-14	2	8.7
15-19	3	13
<b>Years in ED, range</b>	0-18	
<b>Years in ED, median</b>	5	
<b>Job Categories</b>		
Nurse	9	39.1
Security	5	21.7
Physician	2	8.7
Advanced Practitioner (ARNP)	1	4.3
Social Work	1	4.3
Other (MA, PSS, techs)	5	21.7

**Measures to Judge Success:**

Advisory board meetings were conducted quarterly, with updates provided to stakeholders and advisory board members as we progressed. Smaller biweekly meetings occurring with the project team. We followed the project timeline as outlined in the initial report and documented project milestones as they were met through quarterly reports.

Our data regarding gender themes and interviewee responses to WPV (Appendix 9), as well as WPV events and relationship to crowding (Appendix 3), were presented at the Harborview Injury Prevention & Research Center Annual Undergraduate Research Showcase in August 2017 in Seattle, WA.

Our quantitative data and crowding metrics were accepted for oral presentation at the Society for Academic Emergency Medicine's Annual Meeting in Indianapolis, IN in May 2018 (Appendix 10). This presentation was also presented at the University of Washington Department of Emergency Medicine Annual Research Showcase in May of 2018, and was awarded the *Most Innovative Award* out of the 30 presentations.

Our final data and recommendations were presented at the Washington State Governor's Industrial Safety and Health Conference in September 2018 in Spokane, WA. Please see Appendix 11 for a full copy of the presentation and course flyer Appendix 12. Evaluations of this course are available in Appendix 13. An abbreviated version of this presentation is planned to be presented at staff conference at Harborview Medical Center in October at Harborview Emergency Department, with plans to present at UWMC and VMC EDs as well.

## Relevant Processes and Lessons Learned:

**Objective 1** – A literature search was completed through August 2018 in PubMed using keywords such as workplace violence, workplace prevention, healthcare violence, emergency nurse violence, emergency physician violence, emergency department violence, and risk factors workplace violence. Journal articles focusing on Type II workplace violence among healthcare providers were prioritized and reviewed for further references. In addition, many governmental and professional association websites were reviewed for reports, toolkits, and resources (e.g. OSHA, WA State Department of Labor & Industries, Joint Commission, American Organization of Nurse Executives, Washington State Hospital Association, and Emergency Nurses Association, etc.).

**Objective 2** – We designed tools for describing a WPV event as it occurred by an observer. We derived these tools using a *modified Delphi method* through expert consensus and review, components of existing surveys on WPV, workplace violence risk assessment tools and hazard matrices. The tools were also part of a process for assessing and screening for potential WPV. Defining this process took many trial runs and piloting periods as observing and recording this dynamic, relatively high stress and dangerous phenomenon was challenging. It was important to ensure objectivity and validity, as observers naturally had their own subconscious biases and definitions of WPV. *Dual data collection* for training purposes was essential. We also encouraged journaling and note taking by the observer, which were reviewed and discussed by the study team later and assisted in advising the observer how to document future WPV encounters.

**Objective 3** – Enrolling for our study was challenging as we had to ensure *full ownership and buy-in for data collection and worker participation* for the workers at multiple levels, from their coworkers, to immediate supervisors, to institutional policies. We put significant time and groundwork to ensuring this support, meeting with administration from multiple levels of the participating institutions. We initially planned to enroll at 4 sites, however one of our sites that initially pledged support for our grant application withdrew due to mutual disagreement over allocation of funding to that respective institution. We were able to collect sufficient data from our 3 remaining sites and feel that our sample still represents a diverse group of workers and WPV events. This change in site participation occurred early enough for us to adapt our planned data collection time frames. Another lesson learned regarded observer training. Our initial research assistant who served as our first observer left the position. She completed all the interviews, however we wanted to collect more hours of observing time, so decided to hire and train two new observers. We utilized dual data collection for training, and similarly piloted the tools with the observers alongside a member of the study team to ensure agreement and understanding of the observers as they moved forward to solo data collection.

**Objective 4** – Reviewing the transcripts from the 23 interviews and translating these data into qualitative data was time intensive, even more than originally planned for. Due to the richness of these data, additional coders were recruited and brought onto the project, including a qualitative expert with a background in emergency department studies, Dr. Megan Moore, for assistance in developing and iterating the codebook.

Code reconciliation and revision was time intensive as well. The *qualitative software program* Dedoose was essential to multiple coders being able to review and code the transcripts simultaneously and in organizing primary themes and subthemes for analysis.

### **Product Dissemination:**

Upon completion of our literature review, we noted a paucity of literature in medical education on WPV and de-escalation. We wrote and submitted a review on this topic as well as a framework for training. We published a paper in the Journal of Graduate Medical Education, titled *"Promoting Workplace Safety: Teaching Conflict Management and De-Escalation Skills in Graduate Medical Education."* (Appendix 14)

Our data regarding gender themes and interviewee responses to WPV (Appendix 9), as well as WPV events and relationship to crowding (Appendix 3), were presented at the Harborview Injury Prevention & Research Center Annual Undergraduate Research Showcase in August 2017 in Seattle, WA.

Our quantitative data and crowding metrics were accepted for oral presentation at the Society for Academic Emergency Medicine's Annual Meeting in Indianapolis, IN in May 2018 (Appendix 10) (SAEM). This presentation was also presented at the University of Washington Department of Emergency Medicine Annual Research Showcase in May of 2018, and was awarded the *Most Innovative Award* out of the 30 presentations.

Our final data and recommendations were presented at the Washington State Governor's Industrial Safety and Health Conference in September 2018 in Spokane, WA. Please see Appendix 11 for a full copy of the presentation and Appendix 12 for the course flyer. An abbreviated version of this presentation is planned to be presented at staff conference at Harborview Medical Center in October at Harborview Emergency Department, with plans to present at UWMC and VMC EDs as well. This presentation as well as the presentation from Dr. Lipscomb from the course will be available on the DEOHS website, <https://osha.washington.edu/pages/workplace-violence-best-practices-prevention-and-resilience-resource-page>

### **Feedback:**

Please see Appendix 13 for the evaluations of our presentation at the Governor's Industrial Safety and Health Conference in September 2018 in Spokane, WA

### **Project's Promotion of Prevention:**

This project aimed to understand the phenomenon of WPV in EDs, and to identify needs of ED HCWs related to these experiences. Qualitative analysis of the data demonstrates HCWs need time for immediate recovery post WPV event, peer debriefing, team-based interventions and a shared mental model with the team in dealing with an acute WPV event. Understanding these needs may lead to interventions to prevent the effect of WPV we see demonstrated in exposed workers, specifically burnout, job dissatisfaction, and high attrition.



**Uses:**

The data generated in this project, specifically the presentations, posters and papers as well as raw data, will be disseminated within the institutions in which data was collected, as well as within the specialties of emergency medicine and nursing. These data can be used to design and implement meaningful interventions in real time for individuals experiencing WPV in ED settings.

## **Organization Profile:**

### **University of Washington (Managing Partner)**

The University of Washington School of Medicine is dedicated to improving the health and well being of the public. It acknowledges a special responsibility to the people in Washington, Wyoming, Alaska, Montana, and Idaho, who have joined with it in a unique regional partnership.

The University of Washington School of Public Health DEOHS CEP has as its primary goal to translate current occupational and environmental health research from UW faculty and others into usable information for practitioners and workplaces, and also improve pedagogical methods and use of technology in the delivery of training programs.

The University of Washington School of Social Work is promoting social and economic justice for poor and oppressed populations and enhancing the quality of life for all. We strive to maximize human welfare through:

1. **Education** of effective social work leaders, practitioners and educators who will challenge injustice and promote a more humane society, and whose actions will be guided by vision, compassion, knowledge and disciplined discovery, and deep respect for cultural diversity and human strengths.
2. **Research** that engenders understanding of complex social problems, illuminates human capacities for problem-solving, and promotes effective and timely social intervention.
3. **Public service** that enhances the health, well-being, and empowerment of disadvantaged communities and populations at local, national, and international levels.

### **UW Medicine (Primary Industry Partner)**

UW Medicine's mission is to improve the health of the public by advancing medical knowledge, providing outstanding primary and specialty care to the people of the region, and preparing tomorrow's physicians, scientists and other health professionals. UW Medicine holds the core belief that it is a leader in healthcare, employee training, and occupational safety throughout Washington State and the WWAMI region.

### **Virginia Tech Carilion Research Institute (Subcontract)**

The Virginia Tech Carilion Research Institute seeks to improve human health and quality of life by providing leadership, innovation, and high---impact discoveries in biomedical research and by contributing to medical education. Research conducted by Institute scientists is aimed at understanding the molecular basis for health and disease and developing the diagnostic tools, treatments, and therapies that will contribute to the prevention and solution of existing and emerging problems in medicine. Institute investigators also contribute to solving these problems by participating in the research training of tomorrow's physicians enrolled in the Virginia Tech Carilion School of Medicine.

### **Harborview Medical Center**

Harborview Medical Center is a comprehensive healthcare facility dedicated to the control of illness and the promotion and restoration of health. Its primary mission is to provide healthcare for the most vulnerable residents of King County; to provide and teach exemplary patient care; to provide care for a broad spectrum of patients from throughout the region; and to develop and maintain leading-edge centers of emphasis. As the only Level I Adult and Pediatric Trauma Center in Washington, Harborview Medical Center provides specialized comprehensive emergency services to patients throughout the region, and serves as the disaster preparedness and disaster control hospital for Seattle and King County.

**Valley Medical Center**

Valley Medical Center, the District's Healthcare System, is committed to providing access to safe, quality healthcare for the public. The District Healthcare System is integrated with UW Medicine and collaborates to ensure comprehensive, high quality, safe, compassionate, cost-effective healthcare is provided. Our vision is to be a regionally integrated health delivery system with the best quality, service, access, and people in the Puget Sound region.

## Additional Information

<b>Project Type</b> <input checked="" type="checkbox"/> <b>Best Practice</b> <input type="checkbox"/> Technical Innovation <input checked="" type="checkbox"/> <b>Training and Education Development</b> <input type="checkbox"/> Event <input checked="" type="checkbox"/> <b>Intervention</b> <input checked="" type="checkbox"/> <b>Research</b> <input type="checkbox"/> <b>Return to Work x</b> <input type="checkbox"/> Other (Explain):	<b>Industry Classification</b> (check industry(s) this project reached directly ) <input type="checkbox"/> 11 Agriculture, Forestry, Fishing and Hunting <input type="checkbox"/> 21 Mining <input type="checkbox"/> 22 Utilities <input type="checkbox"/> 23 Construction <input type="checkbox"/> 31-33 Manufacturing <input type="checkbox"/> 42 Wholesale Trade <input type="checkbox"/> 44-45 Retail Trade <input type="checkbox"/> 48-49 Transportation and Warehousing <input type="checkbox"/> 51 Information <input type="checkbox"/> 52 Finance and Insurance <input type="checkbox"/> 53 Real Estate and Rental and Leasing <input type="checkbox"/> 54 Professional, Scientific, and Technical Services <input type="checkbox"/> 55 Management of Companies and Enterprises <input type="checkbox"/> 56 Administrative and Support and Waste Management and Remediation Services <input checked="" type="checkbox"/> <b>61 Educational Services x</b> <input checked="" type="checkbox"/> <b>62 Health Care and Social Assistance x</b> <input type="checkbox"/> 71 Arts, Entertainment, and Recreation <input type="checkbox"/> 72 Accommodation and Food Services <input type="checkbox"/> 81 Other Services (except Public Administration) <input type="checkbox"/> 92 Public Administration												
<b>Target Audience: Health Care Workers, Health Care Administrators and Managers, Health Care Educators, Public Health Officials, Social Workers</b>													
<b>Languages:</b> English													
<b>Please provide the following information - -</b> (information may not apply to all projects)	<b>List, by number above, industries that project products could potentially be applied to.</b> 72,81,92												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"><b># classes/events:</b></td> <td style="text-align: center;">2</td> </tr> <tr> <td><b># hours trained</b></td> <td style="text-align: center;">0</td> </tr> <tr> <td><b># students under 18</b></td> <td style="text-align: center;">0</td> </tr> <tr> <td><b># workers</b></td> <td></td> </tr> <tr> <td><b># companies represented</b></td> <td></td> </tr> <tr> <td><b># reached (if awareness activities)</b></td> <td style="text-align: center;">&gt;500</td> </tr> </table>	<b># classes/events:</b>	2	<b># hours trained</b>	0	<b># students under 18</b>	0	<b># workers</b>		<b># companies represented</b>		<b># reached (if awareness activities)</b>	>500	<b>Potential impact (in number of persons or companies) after life of project?</b> The data generated in this project, specifically the presentations, posters and papers as well as raw data, will be disseminated within the institutions in which data was collected, as well as within the specialties of emergency medicine and nursing. These data can be used to design and implement meaningful interventions in real time for the people experiencing WPV in ED settings.  These data can inform other areas of healthcare where workers experience Type II WPV. Potentially, these datas might inform interventions in other fields such as law enforcement, first responders, medical education, social work, etc.
<b># classes/events:</b>	2												
<b># hours trained</b>	0												
<b># students under 18</b>	0												
<b># workers</b>													
<b># companies represented</b>													
<b># reached (if awareness activities)</b>	>500												
<b>Total reached</b>	>500												
<b>Have there been requests for project products from external sources?</b> Our presentations are available on the DEOHS.com website, <a href="https://osha.washington.edu/pages/workplace-violence-best-practices-prevention-and-resilience-resource-page">https://osha.washington.edu/pages/workplace-violence-best-practices-prevention-and-resilience-resource-page</a>													

## PART II

### *Financial Information Budget Summary*

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Preventing Violence against Emergency Department Healthcare Workers: A Prospective Needs Assessment to Inform Effective Intervention	
<b>Project Title:</b>	
<b>Project #:</b> 2016XH00324	<b>Report Date:</b> 10/30/2018
<b>Contact Person:</b> Jessica Bertram	<b>Contact #:</b> 206-221-5943
<b>Start Date:</b> 07/15/2016	<b>Completion Date:</b> 10/30/2018

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1.	<b>Total original budget for the project</b>	\$ <u>200,000</u>
2.	<b>Total original SHIP Grant Award</b>	\$ <u>200,000</u>
3.	<b>Total of SHIP Funds Used</b>	\$ <u>200,000</u>
4.	<b>Budget Modifications (= or - if applicable)</b>	\$ <u>0</u>
5.	<b>Total In-kind contributions</b>	\$ <u>0</u>
6.	<b>Total Expenditures (lines 3+4+5)</b>	\$ <u>200,000</u>

#### Instructions:

- Complete the Supplemental Schedule (Budget) form first (on the next page).
- The final report must include all expenditures from date of completion of interim report through termination date of grant.
- Indicate period covered by report by specifying the inclusive dates.
- Report and itemize all expenditures during specified reporting period per the attached supplemental schedule.
- Forms must be signed by authorized person (see last page).
- Forward one copy of the report to **Grant Manager Name, SHIP Grant Manager at PO Box 44612, Olympia, WA 98504-4612**

PART II (Continued)

*Financial Information*

*Supplemental Schedules (Budget)*

<b>Project Title:</b>	Preventing Violence against Emergency Department Healthcare Workers: A Prospective Needs Assessment to Inform Effective Intervention		
<b>Project #:</b>	2016XH00324	<b>Report Date:</b>	10/30/2018
<b>Contact Person:</b>	Jessica Bertram	<b>Contact #:</b>	206-221-5943
<b>Total Awarded:</b>	\$200,000		

**ITEMIZED BUDGET:** How were SHIP award funds used to achieve the purpose of your project?

	Budgeted for Project	Amount Paid Out	Difference
<b>A. PERSONNEL</b>	156,049	157,885	-1,796
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
<b>B. SUBCONTRACTOR</b>	22,801	22,801	0
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
<b>C. TRAVEL</b>	0	0	0
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
<b>D. SUPPLIES</b>	2,582	645	1,937
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
<b>E. PUBLICATIONS</b>			
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
<b>F. OTHER</b>	386	528	-142
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
<b>TOTAL DIRECT COSTS</b>	181,818	181,819	-1
	Budgeted for Project	Amount Paid Out	Difference
<b>TOTAL INDIRECT COSTS</b>	18,182	18,182	0
	Budgeted for Project	Amount Paid Out	Difference
<b>TOTAL SHIP BUDGET</b>	200,000	200,001	-1

	Budgeted for Project	Amount Paid Out	Difference
<b>G. IN-KIND</b>	55,230	55,230	0
Explanation for Difference and other relevant information: Differences in budget categories were non-material <2%. The -1 difference was written off by the University and not charged to the sponsor.			

I hereby certify that the expenditures listed on this report were made with my approval:

10/30/2018

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Date



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Signature of Project Manager

### PART III

#### ***Attachments:***

Provide resources such as written material, training packages, or video/ audio tapes, curriculum information, etc. produced under the grant.

Also include copies of publications, news releases, curriculum, posters, brochures, etc.

**The above information should also be provided on a CD or DVD for inclusion in the file.**

- DVD: must be in an MP4 format  
Other video files must be provided in uncompressed source files.
- Publications:  
PDF of publication should be provided. SHIP also needs the original publishing documents (design documents), .eps, and .psd (if any illustrations/graphics are used)

**REMINDER!!!:** All products produced, whether by the grantee or a subcontractor to the grantee, as a result of a SHIP grant are in the public domain and can not be copyrighted, patented, claimed as trade secrets, or otherwise restricted in any way.