**Healthcare Threat Assessment: Classifying Attacks, Developing a Team, and Managing Threats**

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Abstract

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University of Pittsburgh, 2019

**Abstract**

Despite its healing mission and purpose, the healthcare environment is not immune to violence. Healthcare workplace violence affects workers, patients, and visitors alike, ranging from the reactive violence of a delirious senior citizen to the targeted violence of an aggrieved intimate partner. This paper proposes integrating the Public Health Approach to Violence Prevention and the field of Threat Assessment and Management to implement interdisciplinary threat assessment teams who identify, manage, and mitigate workplace threat. **The public health relevance is expanding violence prevention to the healthcare workplace and improving quantitative methods of defining and counting violent attacks.** Public health is public safety; the healthcare environment needs a culture of safety to ensure the health, safety and well-being of its entire population.

Starting with Stage One of the Approach, *define and monitor the problem*, this paper adapts common definitions of workplace violence to the healthcare environment in Classifying Healthcare Attacks and Threats (CHAT). CHAT definitions are demonstrated through real-life examples and its methodological application to a nationwide dataset of active shooter incidents. With these consistent definitions, healthcare organizations can more accurately move through the remaining stages, from identifying risk to developing prevention strategies. Integrating threat assessment is such a strategy, managing and preventing targeted violence by identifying and offering non-violent options for those on along the pathway for violence.

The paper concludes with an introduction to threat assessment teams, healthcare and non-healthcare industry examples, and a discussion of the major ethical and logistical uncertainties. Organizations must determine when the invasion of individual privacy is justified by the need for public safety or how to handle reporting complicated by unconscious bias. Despite these uncertainties, implementing threat assessment in the healthcare operates on the main principle of all other public health programs, that prevention is the best policy. Targeted workplace violence, while harmful and disturbing, is identifiable, measurable, and preventable. Healthcare Threat Assessment is another important public health approach to violence prevention that ensures the health, safety and well-being of our communities.

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# Workplace Violence

Each employer -- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees,

Section 5(a), Occupational Safety and Health Act of 1970

Thus the spectrum of workplace violence ranges from offensive language to homicide, and a reasonable working definition of workplace violence is as follows: violent acts, including physical assaults and threats of assault, directed toward persons at work or on duty.

“Violence in the Workplace,” The National Institute for Occupational Safety and Health

Despite its healing mission and purpose, the healthcare environment is not immune to violence. Healthcare workplace violence affects workers, patients, and visitors alike, ranging from the reactive violence of a delirious senior citizen to the targeted violence of an aggrieved intimate partner. Approximately 20 million people are employed in the Healthcare and Social Assistance Sector and healthcare workers account for 9.1% of total employment (Bureau of Labor Statistics 2019; Kaiser Family Foundation 2017). The public health relevance of workplace violence prevention is important in both scope and severity, the healthcare environment needs a culture of safety to ensure the health, safety and well-being of its entire populations. Thus, healthcare employers have the daunting task of providing a safe environment for patients to heal and for millions of workers to do their jobs.

As a public health intervention, this paper discusses the integration of the Public Health Approach to Violence Prevention and the field of Threat Assessment and Management within the healthcare environment. The historical development of Threat Assessment neatly mirrors the classification of violence as a public health problem. Throughout the 1980s-1990s, both areas were receiving more attention, research, and appropriations. By 1993 the Center for Disease Control (CDC) was establishing its Division of Violence Prevention and by 1995 Fein, Vossekuil, & Holden published the definition of Threat Assessment in their paper “Threat Assessment: An Approach To Prevent Targeted Violence.” Currently, the CDC has adopted the “The Public Health Approach to Violence Prevention,” using multidisciplinary expertise and an evidence base to promote to protect public safety. The approach is defined by four steps: (1) Define and Monitor the Problem, (2) Identify Risk and Protective Factors, (3) Develop and Test Prevention Strategies, and (4) Assure Widespread Adoption. The implementation of threat assessment in the healthcare environment also follows this approach, hinging on data collection, program evaluation, and cycles of improvement.

First, the paper will explore the scope, types, and major challenges of workplace violence in the healthcare sector and what is known about the Pathway to Targeted Violence. The second section of this paper will focus on Stage One of the Public Health Approach: *Defining and monitoring the problem*, and proposes the Classification of Healthcare Attacks and Threats (CHAT). The introduction of CHAT will follow on the discussion of its predecessor, the Peek-Asa model, demonstrated through narrative description and real-life examples. The CHAT Classification scheme will be applied to the FBI Active Shooter Reports, a large and well-known dataset of active shooter incidents in the United States between 2000-2018. These will provide examples for how healthcare organizations and threat assessment teams can apply these definitions to their own data as they progress through the Public Health Approach.

The final section will finish with an overview of the field of threat assessment, major industry examples of threat assessment teams, and will discuss some unique ethical challenges and uncertainties. Like any other field of security, numerous quandaries of privacy, intuition, bias, and stigma complicate the everyday process of case management. This paper can be used as a primer into the world of threat management and violence prevention through the lens of the healthcare environment. Organizations can move forward in the Public Health Approach to identify their risk, design their unique programs, and scale up their successes. Targeted workplace violence, while harmful and disturbing, is identifiable, measurable, and preventable. Healthcare Threat Assessment is another important public health approach to violence prevention that ensures the health, safety, and well-being of our communities.

## Workplace Violence in the Healthcare Environment

While “healthcare occupational hazards” often bring to mind radiation exposure or musculoskeletal injury from heavy wheelchairs, workplace violence also an occupational hazard and is surprisingly common in the healthcare environment. The Occupational Safety and Health Administration (OSHA) data shows that serious attacks occur four times more often within the healthcare environment than in any other occupational industry, approximately 7.8 cases of serious workplace violence per 10,000 full-time employees compared to 2 cases per 10,000. While most violent injuries are caused by patients, a significant number are caused by visitors, coworkers, and trainees. “Frontline” locations and staff experience the most violence: emergency, behavioral health, forensic, geriatric and nursing facilities (Tattoli et al. 2019). Nursing and support staff experience the highest violence, from registered nurses (14 violent injuries resulting in days away from work per 10,000 full-time employees) to psychiatric and home health aides (590 injuries per 10,000 full-time employees) (OSHA 2014). Such violence has physical and mental harm of workers and can significantly affects the quality and motivation of their work.

The effects of workplace violence have important tangible and intangible costs. Beyond counting days away from work, unsafe environments can lead to worker burnout, high turnover, and reduced quality of patient care. While decreased productivity, absenteeism, and presenteeism can lead to irritating mistakes in a field like accounting, they can potentially lead to fatal medical errors in the healthcare environment. Workplace violence is estimated to cost between 4 and 55 billion annually, depending on inflation and including intangible costs (Hassard, Teoh, and Cox 2019; Speroni et al. 2014)

Unfortunately, these national statistics only capture violence severe enough to require time away from work and almost all estimates assume that a majority of incidents go unreported. Peer pressure, time restraints, cumbersome reporting methods, fear of repercussion, understaffing, and a sense of normalcy reduce successful reporting, Nursing surveys have found between 15-20% of nurses have experienced workplace physical attacks within a work-year, but only 50-70% of physical attacks are ever reported to a manager (OSHA 2014). Emergency nurses may have rates as high as 82.1% and for nursing aid rates may be as high 51% (Phillips 2016). For some nurses, being punched, bit, shoved, and verbally abused has become a regular part of the job.

Just like violence in any other workplace, the methods of healthcare violence can vary from a punch to an active firearm. For non-fatal attacks, hitting, kicking, beating, and shoving are the most common methods resulting in days away from work (OSHA 2014). Unsurprisingly, fatal attacks often use more lethal means. In an examination of 33 fatal attacks on mental health workers, use of a firearm was most common, followed by beating, stabbing, and strangulation. Throughout 2000-2011, there were 154 hospital shootings in the US which harmed at least one individual. Shootings occurred in medium-sized hospitals, divided 60%/40% between inside the hospital and outside (grounds, parking lots, and outside the Emergency Department). A third of shootings were associated with the Emergency Department. Except for the attacker, most often injured were patients, followed by visitors, security staff, nursing staff, and physicians. Such extreme cases of violence are much less common, but have a considerable ripple effect on workers and the community (Tattoli et al. 2019). These fatal events are often proceeded by a complex history of relationship and grievances and we will examine this relationship further in the following section.

In order to fully protect patients and workers, many healthcare organizations have been pushing organizational and legislative changes to create a stronger Culture of Safety. OSHA defines a culture of safety as “an atmosphere of mutual trust, shared perceptions of the importance of safety, confidence in the efficacy of preventive measures, and a no-blame environment” (OSHA 2015). Prominent groups like the Joint Commission (JC), the World Health Organization (WHO), Occupational Safety and Health Administration (OSHA), The National Institute for Occupational Safety and Health (NIOSH), and many professional nursing organizations have published recommendations, guidelines, and programs to improve safety and prevent workplace violence, many of which will be referenced here. On a personal level, workers and victims have transformed into strong safety advocates, championing programs and proposing legislation. For example, ER nurse Elsie Wilson inspired and testified in favor of ‘Elsie’s Law’ ("An Act requiring healthcare employers to develop and implement programs to prevent workplace violence" 2019) after being nearly stabbed to death by a patient. While a number of states, (WA, OR, IL, CA, NY, ME, CT, NJ, MD) have state regulations requiring risk assessments and violence prevention in the healthcare environment, Massachusetts has not yet passed Elsie’s Law (OSHA 2015).

As a targeted public health approach, other healthcare organizations are integrating the fields of healthcare and public safety, focusing resources to build Threat Assessment and Management teams. Threat Assessment, widely used in public and private security, has been increasingly incorporated into the workplace, religious organizations, and schools. As more interest has grown within the healthcare sector, increasing numbers of professional organizations are publishing and implementing guidelines, frameworks, and program plans, increasing the need for consistent and rigorous methods of data collection and evaluation. Further discussion on the main principles of threat assessment and methods of categorizing workplace violence follow below.

## Defining & Describing Violence

### Definitions

**Healthcare Environment**

The WHO’s Framework Guidelines for Addressing Workplace Violence in the Health Sector defines the healthcare workplace as:

Any health care facility, whatever the size, location (urban or rural) and the type of service(s) provided, including major referral hospitals of large cities, regional and district hospitals, health care centres, clinics, community health posts, rehabilitation centres, long-term care facilities, general practitioners’ offices, other independent health care professionals. In the case of services performed outside the health care facility, such as ambulance services or home care, any place where such services are performed will be considered a workplace (WHO 2002).

Similarly, OSHA gives the following five setting definition in their Guidelines for Preventing Workplace Violence for Healthcare and Social Service Workers (OSHA 2016):

■ **Hospital settings** represent large institutional medical facilities;

■ **Residential Treatment** settings include institutional facilities such as nursing homes, and other long-term care facilities;

■ **Non-residential Treatment/Service** settings include small neighborhood clinics and mental health centers;

■ **Community Care** settings include community-based residential facilities and group homes; and

■ **Field work** settings include home healthcare workers or social workers who make home visits.

These two definitions synergistically overlap and will be used to define the full scope of the environment encompassed by the healthcare sector.

**Threat**

Threats may come in two forms, known as the difference between *making* a threat and *posing* a threat. For the former, making a threat is “an expression of intention to inflict injury or damage” (Behavioral Analysis Unit 2016). This expression is irrespective of the maker’s true intention or the occurrence of actual violence. Some who make threats also enact violence, some who make threats do not enact violence, and some make no threats and enact violence.

Five types of threat-makers have been proposed (Meloy and Hoffmann 2013):

1. Screamer: intention to vent feelings
2. Shielder: Intention to scare off
3. Shocker: Intention only to frighten
4. Schemer: Intention to pressure
5. Signaler: Intention to warn

On the other side, *posing* a threat refers to the perceived possibility of harm: a hazard of risk. This may be assessed by public safety, health professionals, and even bystanders. While signalers are the most concerning threat-makers, posing a threat is not conditional on the presence of an explicit communicated threat. Just as not all who make threats, pose a threat…not all who pose a threat, make threats.

**Violence/Attack**

In general, violence refers to “any actual, attempted, or planned injury of other people, as well as any communication or behavior that causes other people to reasonably fear for their health or safety; it is intentional, nonconsenting, and without lawful authority” (Meloy and Hoffmann 2013). This includes include stalking behaviors, verbal attacks, or psychological abuse. Examples in this paper often detail physical abuse as a limitation of media and reporting bias, however this does not exclude the importance of non-physical violence. This paper uses “attack” and “act of violence” interchangeably.

**Targeted Violence**

Violence can fall into two categories of premeditated or reactive. The latter can be affective, impulsive, and a less conscious response. The former is self-conscious, slow, and deliberately goal-directed. This type of violence is also often referred to as *targeted violence* or violence in “situations in which an identifiable (or potentially identifiable) perpetrator poses (or may pose) a threat of violence to a particular individual or group” (Fein 1995). Threat assessment focuses on reducing the impact of targeted violence.

**Perpetrator/Attacker**

A perpetrator or attacker is a person or persons who commit or attempt to commit an act of violence against another person. These terms are used interchangeably throughout this paper.

**Target, Victim**

A target is a person(s) who is the intended recipient of an attacker’s threats and violence. A target is not always a victim, or a person who is injured as a result of an attack. These terms are *not* used interchangeably throughout this paper.

### Describing Violence

While sensationalizing violence on front-page headlines is nothing new, it has unique reverberations in the era of Social Media. Mark Follman, a journalist and frequent writer about mass shootings, had written numerous articles on the dangerous nature of covering violent events. Media coverage provides attention, infamy, and the potential to be a household name. Media can put a face on the front page of every newspaper and news-page. Such coverage can provide a perverse glory and ascension to “anti-hero” status. Follman notes that even publishing injury counts can inspire competition to break records and achieve higher scores (Follman 2018, 2015, 2017). To report responsibly, Follman suggests the following (Follman 2015):

7 ways the media can help reduce the copycat effect

1. Report on the perpetrator forensically and with dispassionate language.
2. Keep the perpetrator’s name out of headlines.
3. Minimize use of the perpetrator’s name.
4. Minimize use of images of the perpetrator.
5. Avoid using “pseudocommando” or other posed photos of the perpetrator.
6. Avoid publishing the perpetrators’ videos or manifestos except when clearly valuable to the reporting.
7. Don’t fixate on body counts.

Although not traditional media, this paper attempts to abide by these rules when describing violence and real-life events. Cases are de-identified and de-gendered as possible. Some descriptions of the method and scope of violence are necessary, but attempts have been made to reduce details and injury counts to the minimum.

## The Pathway to Violence

Many reports of workplace violence mistakenly suggest that violent attackers are impulsive, mentally ill, or that they simply “snapped,” as in “Man arrested in hospital stabbing was a caring son who snapped” (Burlew 2018). Most experts on violence identify these descriptions as myths. While reactive violence does occur within the healthcare environment, these headline grabbing stories are rarely examples of reactive violence. Reactive, or affective, violence is comingled with autonomic arousal, and is often defensive, self-protective, and emotional. Disturbances in perception and awareness, in addition to physiological and autonomic changes, can predispose someone to reactive violence and can be very common in healthcare settings. This can be as simple as the confused geriatric patient who strikes a nurse adjusting their IV or other patients with dementia or cognitive decline, seriously ill and delirious patients, along with intoxicated, withdrawing, psychotic, or mentally disabled patients who enact reactive violence on those around them. However, in the absence of autonomic arousal and in the presence of conscious planning, as common for most mass violence incidents, this violence is now targeted or intentional.

Again, targeted violence is “violence where the potential of violence, the assailant, and the target can all be identified to some degree prior to the attack” (Rozel 2018). Through long study on targeted violence, researchers and experts have noted consistent patterns of thought and behavior which coalesce into the “Pathway to Violence”. The pathway follows the stages like a stairway or a ladder from (1) a particular grievance to (2) researching, planning, and pre-attack preparation, (3) probes and breaches, and (4) the actual violent attack (Calhoun and Weston 2003). This pathway highlights the distinction between targeted and reactive violence: it is a decided and planned behavior. Attacks with lethal weapons, targets, or numerous victims are almost always intended violence. Thus, in the case of “Man arrested in hospital stabbing was a caring son,” the man very likely did *not* snap.

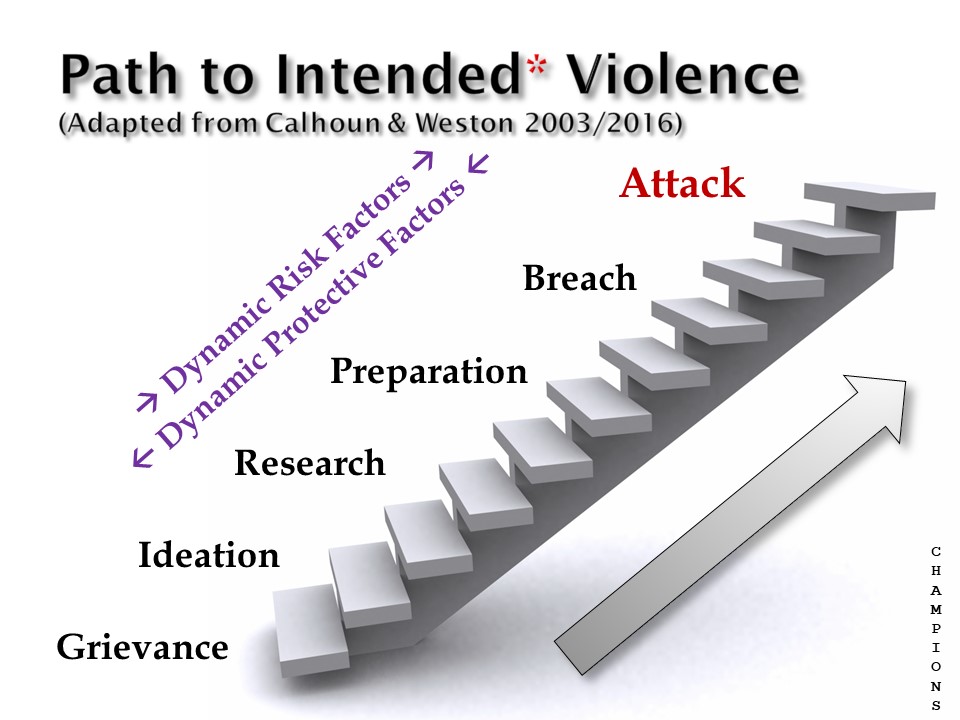


Figure 1 Pathway to Workplace Targeted or Intended Violence

The pathway begins when the perpetrator takes the first step towards violent ideation, they believe that violence is a valid option for resolving the grievance. As the perpetrator climbs, they engage in researching behaviors: accumulating information about the target, potential attack methods, and past attacks and/or present attackers. Next, preparation involves the perpetrator acquiring the materials and weapons needed to complete the attack and preparing personal affairs for the consequences of the attack. During preparation, attackers also move towards physical rehearsals of the attack, like driving by the target’s place of employment, until they transition to the next stage of breach. This overstepping the boundaries of security often signal imminent attacks.

In June 2018, the Federal Bureau of Investigation published *A Study of the Pre-attack Behaviors of Active Shooters in the United States Between 2000 and 2013* to add real life examples to the behaviors seen along the Pathway to Violence (Silver 2018). The report’s objective was to “examine specific behaviors that may precede an attack and which might be useful in identifying, assessing, and managing those who may be on a pathway to deadly violence.” The study included case materials for 63 active shooters ages 12-88 of varying races, educational and employment backgrounds. 50 of the attackers (79%) had a readily identifiable grievance and 40 (63%) had an identifiable target or group of targets. For the cases with data available, 76% spent at least a week planning for the attack and 72% spent at least one additional week in preparation. The report concludes that there are multiple timepoints and opportunities for intervention along the pathway.

Similarly, there is the potential for intervention through expressed threats and leakage of information. Threats and leakage are possible throughout any of the stages along the pathway. Directly expressed threats may be the most obvious sign, but as discussed previously may not represent a truly *posed* threat. However, they must always be assessed seriously for their relationship to the pathway. In contrast, leakage is when potential perpetrator “intentionally or unintentionally reveals clues to feelings, thoughts, fantasies, attitudes, or intentions that may signal an impending violent act. These clues could take the form of subtle threats, boasts, innuendos, predictions, or ultimatums” (Lankford, Adkins, and Madfis 2019). In a collection of targeted violence studies, a third party was aware of the perpetrator’s intention to enact violence between 50-80% of the time. Lankford, Adkins, and Madfis analyzed the 15 most deadly mass shootings of the last 20 years and found that leakage of the perpetrator’s interest in mass violence occurred 80% of the time. The FBI study of pre-attack behaviors found that 55% of targeted incidents had an expressed threat or confrontation, 95% of these were in-person. Leakage of the intention to commit violence was present in 56% of all cases and 40% of targeted cases had leakage which specified the intended target. The report concludes that threats and leakages are key prevention entry points for both public safety, health professionals and bystanders.

Principles of the pathway to violence and leakage also apply to workplace violence in the healthcare environment. In the previous study of hospital shootings, Kelen et al. found that 62% of perpetrators had clear associations to the healthcare environment either through an intimate relationship, as a patient, or as a past/present employee. Similarly, 62% of cases involved an identifiable grievance. Though the healthcare environment may appear different than other workplaces due to its complexity, the targeted pathway of its attackers and their violence remains the same.

# Classifying Healthcare Attacks and Threats

Although we all have an instinctual understanding of violence and attacks, attacks are methodologically challenging to define and measure. Attacks can be recorded by location, method of injury, number injured, or by details about the victims and attackers. In the workplace, other details can be added such as occupation of victim, department where violence occurred, time required off work, or referrals to external sources like law enforcement, employee assistance, or legal support. Even throughout the previous sections, data on workplace attacks has been presented through various metrics. This section will outline a widely used model of recording violence, the Peek-Asa Four Type Model, followed by its adaptation for the healthcare environment: Classifying Healthcare Attacks and Threats (CHAT). CHAT is demonstrated through real-life examples and methodologically applied to the FBI Active Shooter Reports, a large and well-known dataset of active shooter incidents in the United States between 2000-2018. These will provide examples for how healthcare organizations and threat assessment teams can apply these definitions as they collect data and progress through the Public Health Approach.

## Four Types of Workplace Violence

### Peek-Asa Model

A widely used model for classifying violence in workplace research was published by Dr. Corinne Peek-Asa & colleagues in the early 2000s. The Peek-Asa model categorizes violence based on the relationship of the attacker to the target and/or victim within the context of the business environment. It is this contextual relationship which is pertinent, rather that the method, location, intentions, or characteristics of the parties involved. In a 1997 paper entitled “Incidence of Non-Fatal Workplace Assault Injuries Determined From Employer's Reports in California,” Drs. Peek-Asa, Howard, Vargas, and Kraus modified California’s Department of Industrial Relations classification of violent events from three categories to four (Peek-Asa et al. 1997; California Department of Industrial Relations 1995). A following 2002 paper entitled “The Role of Surveillance and Evaluation Research in the Reduction of Violence Against Workers” further refined and defined the four types of workplace violence commonly used throughout research and industry (Peek-Asa, Runyan, and Zwerling 2001). Dr. Peek-Asa is now a renowned injury and violence prevention researcher and holds the appointments of Associate Dean for Research at the University of Iowa College of Public Health and Professor in the Department of Occupational and Environmental Health.

Since 2002, the Peek-Asa model has been adapted by many institutions for research and is seen consistently throughout governmental organizations like including the Federal Bureau of Investigation (FBI), Occupational Safety & Health Administration (OSHA), and the Department of Homeland Security. Since the model defines attacks based on the relationship of the attacker to the target or victim, it follows many of the principles utilized by threat assessment and management. Many of the threat assessment references in this paper from these organizations use the Peek-Asa Model.

Table 1 Peek-Asa reclassifying California OSHA Types of Violence

|  |  |
| --- | --- |
| 1995 CA Department of Industrial Relations Workplace Violence Classifications | 2002 Peek-Asa Workplace Violence Classifications |
| **Type I** | **Type I: Criminal Intent** |
| Involves a violent act by an assailant with no legitimate relationship to the workplace who enters the workplace to commit a robbery or other criminal act. | The perpetrator has no legitimate relationship to the business or its employees and is usually committing a criminal act before the violence. Criminal acts include robbery, shoplifting, and loitering. |
| **Type II** | **Type II: Customer/client** |
| Involves a violent act or threat of violence by a recipient of a service provided by our establishment, such as a client, patient, customer, passenger or a criminal suspect or prisoner. | The perpetrator has a legitimate relationship with the business and becomes violent during a business transaction. This category includes customers, clients, patients, students, inmates, and any other group to which the business provides services. |
| **Type III** | **Type III: Worker on Worker** |
| Involves a violent act or threat of violence by a current or former worker, supervisor or manager, or another person who has some employment-related involvement with our establishment, such as an worker's spouse or lover, an worker's relative or friend, or another person who has a dispute with one of our workers. | The perpetrator is an employee or past employee of the business who attacks or threatens another employee(s) or past employee(s). |
|  | **Type IV: Personal Relationship** |
|  | The perpetrator does not have a relationship with the business but has a personal relationship with the intended victim. This category includes victims of domestic violence who are attacked while at work. |

### Ideological & Global Violence

A fifth category of workplace violence, Ideological Violence, was introduced by Steven Criminado, an anti-terrorism expert, after multiple workplace violence shootings in 2015. (Criminado 2016a, 2016b). 2015 saw workplace shootings at military facilities in Chattanooga, VA, Charlie Hebdo headquarters in Paris, a Planned Parenthood clinic in Colorado Springs, and the Inland Regional Medical Center in San Bernardino, CA. Criminado defines Type V Ideological Violence as: Violence directed at an organization, its people, and/or property for ideological, religious or political reasons (Behavioral Science Applications 2015). Criminado argues that the relationship between the perpetrator and the victim’s ideas and value are the key to understanding the violence, a slight twist on the Peek-Asa relational focus. Criminado writes:

In Type V violence the perpetrators are “true believers” who feel justified in the use of violence by their radical belief system. In addition to acts of violence inspired or directed by international terrorist groups, domestic terrorism from extremist in anti-government, environmental or animal rights groups also fall into this category.

While Type V violence is often associated with terrorism within the United States, ideological violence can be devastating for countries affected by conflict and crisis. The United Nations and World Health Organization began piloting in 2015 the Monitoring Violence against Health Care (MVH) tool in the Syrian conflict to improve reporting of attacks (Elamein et al. 2017). Since then, in December 2017, the World Health Organization began the Surveillance System for Attacks on Health Care (SSA), a online global surveillance tool. The SSA “records acts or threats of violence or obstruction that interfere with the availability or delivery of curative and preventive health-care services in conflict- or crisis-affected countries.” (Health Care in Danger 2018). The SSA records information by attack method: violent search, assault, setting fire, removal personnel, obstruction, individual weapons, heavy weapons, removal assets, psychological violence, and militarization of facility, and target type: facilities, transport, professionals, patients, supplies, and warehouses (World Health Organization 2019).

## CHAT: Adapting Peek-Asa for the Healthcare Environment

While the Peek-Asa Model functions well for the general workplace, the healthcare environment introduces further complexity not well captured by the four-type model. Healthcare encompasses a myriad of individuals, settings, staff, and complex interpersonal relationships. Instead of the standard worker/client interaction of a traditional workplace, the healthcare environment has the triangular worker/patient/visitor complex. Workers may be medical professionals, support staff, security, legal, risk management, trainees, or volunteers. Patients may be acute, sub-acute, or permanent residents of a healthcare environment. In some cases, a hospital functions as a also public space, a gather space for friends, family, and the community.

Furthermore, by combining a place of employment with the management of personal health, there is the potential for an innumerable amount of grievances or personal affronts. Many healthcare environments are open 24/7, handle crisis situations, and severely ill-individuals. Healthcare spaces can be highly confusing, fragmented, and emotional. Even more confusing, the healthcare setting blurs the line between the public and private setting as some patients live within the environment for days, months, and years.

While interest in healthcare violence prevention has been growing, moving forward with Step One of the Public Health Approach to Violence Prevention. has been greatly thwarted by the lack of consistent methods for defining, measuring, and discussing workplace violence. This challenge has been recognized by large medical organizations like the Joint Commission and the World Health Organization (WHO). In April 2018, the Joint Commission published a Sentinel Event Alert on *Physical and verbal violence against health care workers* which recommended to “1. Clearly define workplace violence and put systems into place across the organization that enable staff to report workplace violence instances.” This is followed by calls to “2. Recogniz[e] that data come from several sources, capture, track and trend all reports of workplace violence” and “4. Review each case of workplace violence to determine contributing factors” ('Physical and verbal violence against health care workers' 2018). In 2002, the WHO similarly called for “Better (standardized, valid, reliable) research instruments need to be developed, and uniform categories and definitions for violence need to be agreed upon” (Cooper 2002).

The Peek-Asa Model has been occasionally applied to the healthcare environment, most often through research on Type II Patient on Worker attacks. However, the strongest example of Peek-Asa health care use is in widely cited 2016 New England Journal of Medicine article reviewing the challenges of healthcare workplace violence (Phillips 2016). While introducing the topic, Dr. Phillips provides healthcare examples of each Peek-Asa type of violence, but stops short of fully operationalizing the categories for the healthcare environment.

Therefore, this paper adapts the widely used model of classifying workplace violence (Peek-Asa) for the healthcare setting by proposing the Classification of Healthcare Attacks & Threats model (CHAT). This six-category classification scheme will be defined for use in data collection and in threat assessment teams. By implementing consistent definitions which focus on the *relationship* of the attacker/targets, healthcare environments can more fully understand the violence that occurs in their workplace and implement evidence-based, evaluated programs to keep workers, patients, and visitors safe. Each subcategory will be demonstrated through potential scenarios and real-life examples of healthcare attacks. All definitions are summarized in the following table.

Table 2 Classifying Healthcare Attacks and Threats (CHAT)

|  |  |  |
| --- | --- | --- |
| **Peek-Asa** | **CHAT** | |
| **Type I: Criminal Intent** | **Type I: Criminal Intent** | |
|  | Type A (on worker) | Type B (on non-worker) |
| The attacker has no legitimate relationship to the business or its employees and is usually committing a criminal act before the violence. Criminal acts include robbery, shoplifting, and loitering. | The perpetrator has no relationship to the healthcare setting and attacks healthcare workers in the process of committing the criminal act. Criminal acts include robbery and shoplifting. | The perpetrator has no relationship to the healthcare setting and attacks patients or visitors in the process of committing the criminal act. This category includes spillover violence from gang or drug trafficking activity or stalking of a public figure or celebrity. |
| **Type II: Customer/Client** | **Type II: Patient/Visitor on Healthcare Participant** | |
|  | Type A (on worker) | Type B (on non-worker) |
| The attacker has a legitimate relationship with the business and becomes violent during a business transaction. This category includes customers, clients, patients, students, inmates, and any other group to which the business provides services. | A patient or visitor attacks a healthcare worker throughout the course of a service encounter (single or longitudinal). | A patient or visitor attacks other co-located patients or visitors in the healthcare setting. |
| **Type III: Worker on Worker** | **Type III: Worker on Healthcare Participant** | |
|  | Type A (on worker) | Type B (on non-worker) |
| The attacker is an employee or past employee of the business who attacks or threatens another employee(s) or past employee(s). | A past or present healthcare worker attacks other past/present healthcare workers. | A current healthcare worker attacks patients or visitors within their healthcare setting. |
| **Type IV: Personal Relationship** | **Type IV: Personal Relationship** | |
|  | Type A (with worker) | Type B (with non-worker) |
| The attacker does not have a relationship with the business but has a personal relationship with the intended victim. This category includes victims of domestic violence who are assaulted while at work. | The attacker has no specific relationship with the healthcare setting but has a personal relationship with the targeted healthcare worker. This category includes victims of domestic or familial violence who are attacked while at work. | The attacker has no specific relationship with the healthcare setting but has a personal relationship with the targeted patient or visitor. This category includes victims of domestic violence who are attacked while visiting the healthcare setting or family members who are injured after a change in medical status. |
|  | **Type V: Ideological Targeting** | |
| Type A (of worker) | Type B (of non-worker) |
| The attacker has no relationship with the healthcare setting and no personal relationship with healthcare workers but has an ideological relationship to their health services. This category includes medical services like abortion or sex-reassignment surgery. This also includes the targeting of healthcare workers during armed conflict. | The attacker has no relationship with the healthcare setting and no personal relationship with patient or visitor but has targeted them for an ideological, political, or religious purpose. This includes targeting a patient for use of a medical service like abortion or gender/sexuality services or the targeting of healthcare facilities during armed conflict. |
|  | **Type VI: Identifiable Third Parties** | |
| A patient who threatens violence against a non-healthcare-associated, but identifiable third party during a service encounter. The attacker then typically commits the act of violence outside the healthcare setting. | |

### CHAT Type 1: Criminal Intent

Both models define Type I workplace violence as the byproduct of criminal intent. The perpetrator has no specific relationship to the healthcare environment or its workers, but attacks for material or criminal gain. It is possible that the perpetrator may have a relationship with the victim, mostly in the cases where violence spills over from another circumstance into the healthcare environment: perpetrator hiding from police. Type IA applies when healthcare workers are attacked, Type IB when patients or visitors are attacked.

**Type I: Criminal Intent** Type A (on worker)

The perpetrator has no relationship to the healthcare setting and attacks healthcare workers in the process of committing the criminal act. Criminal acts include robbery and shoplifting where the perpetrator may attack to acquire medications, medical equipment, money, or chemicals from healthcare workers.

* Four hospital staff were robbed of their personal belongings and one was shot at the hospital bus stop (WSFA 12 News 2018).
* Three armed individuals entered an urgent care clinic, beat those inside, and stole thousands of dollars (Teproff 2017).

With the rise of opioid usage and addictions, many of these violent incidents concern narcotic and pain medications.

* An individual armed with two rifles and a potential bomb entered a hospital emergency room demanding drugs (Cuevas 2016).
* An individual entered a hospital emergency room complaining of abdominal pain and held nurses at gunpoint to obtain pain medication. The individual fired once, but did not injure anyone. They also committed armed robbery at a nearby pharmacy months before to obtain prescription medications (Pineiro-Zucker 2018).

**Type I: Criminal Intent** Type B (on non-worker)

The perpetrator has no relationship to the healthcare setting and attacks patients or visitors in the process of committing the criminal act. This category includes spillover violence from criminal activity which happens to occur on hospital grounds.

* A hospital visitor was robbed and stabbed while returning to her car in the hospital parking lot. The perpetrator had a history of stabbed other women (Luthern 2018).

Scenarios also include a continuation of gang or drug trafficking activity and police-suspect interactions. While there may be a relational connection between victim and perpetrator, unlike Type IV violence, the relationship is usually not personal or intimate. The primary context of the violence relates to the criminal activity rather than the relationship. For example, gang-related retaliation occurs due to the gang affiliation and the victim’s known presence in a medical facility more than the characteristics of the individual themselves. In some cases, such criminal affiliation may be unknown to hospital and security staff and such events will inevitably be classified as Type IIB (Patient/visitor on non-worker) or Type IVB (Personal relationship with non-worker).

* A gang-related shooting occurred inside a hospital emergency room while local police accompanied a suspect for medical evaluation (City News Service 2018).
* A gang opened fire on an emergency room exterior in an attempt to wound rival gang members while they were lured out of the hospital. Rival gang members were visiting associates who had been wounded in a drive-by shooting earlier that day (Jany 2016).
* While awaiting a forensic medical evaluation, an individual attacked two other patients, reportedly to improve their gang status (Associated Press 2019a).
* A suspect was shot after an altercation with the police while awaiting medical evaluation at a hospital (Garrison 2015).
* Police shot an armed man who fled after interacting with a child in the Intensive Care Unit. The police had been looking to arrest the individual (CNN Staff 2013).

Finally, Type IB scenarios include violence or stalking behaviors related to a public figure or celebrity. Public figures like politicians, athletes, and other celebrities are doubly vulnerable to tracking and attacks when located in a healthcare facility. News and tabloid outlets may share medical information and the location of their healthcare facility. Usually such violence does not occur within a personal relationship, a celebrity often does not know their stalker, and resides in the context of criminal activity. Often police and private security are contracted to provide extra safety for this type of violence.

### Type II: Patient/visitor on Healthcare Participant

Like the Peek-Asa model, CHAT Type II considers “clients” who enter the environment and enact violence. However, the combination of relationships possible in the healthcare environment expands this definition beyond the simple customer/client relationship. While there are patients (clients) who have a service relationship with the healthcare environment (business), the relationship can span anywhere between minutes to years and vary from medical records to valve replacement surgery. Additionally, patients have visitors who have a legitimate relationship to the healthcare environment, but only through their relationship to the patient.

Patients and their associated visitors may attack anyone else in the environment, called a ‘healthcare participant’ for simplicity. Type IIA concerns attacks on workers, Type IIB concerns attacks on non-workers, usually other patients and visitors.

**Type II: Patient/Visitor on Healthcare Participant** Type A (on worker)

A patient or visitor attacks a healthcare worker throughout the course of a service encounter. Type IIA violence can occur in the context of a single service encounter or that of a longitudinal relationship. The most commonly studied cases are of patients attacking service providers within a single service encounter, emergency room, long-term care, and behavioral health workers are most frequently targeted in this type of violence. Commonly, these attacks are muddled by co-occurring mental illness, cognitive decline, or substance use. Attacks may include many types of violence which are not always reported and recorded.

* An emergency nurse was stabbed by a patient, requiring critical care (Jones 2017). The patient reportedly returned to the hospital to get revenge for previous sub-par care. The nurse had not previously treated the perpetrator (Katler 2018).
* Another emergency nurse was stabbed in the neck by a patient whom they had treated the month prior (Lehman 2017).
* A patient shot a physician while awaiting a mental health evaluation (Associated Press 2019b).
* A nurse was fatally stabbed and three other wounded when a man attacked a surgical ambulatory center (Shoichet 2013).
* An elderly patient used a metal medical pole to attack the nurse’s station, injuring four. The patient struggled with delusions and believed he needed to break out of the hospital (Olson 2014).
* Multiple healthcare workers were injured during a patient takeover of a unit at a state psychiatric hospital (Dresser 2016).

In other cases, given the longitudinal nature of the patient/provider relationship, the perpetrator and victim(s) may be known to each other.

* A behavioral health patient fatally shot their caseworker and injured their physician during an argument at an appointment (Associated Press 2014).
* The son of a deceased patient returned to the hospital months later to fatally shoot the mother’s heart surgeon.
* A patient struggling with psychosis returned the hospital in search of their surgeon from nine years prior and shot three workers (Associated Press 2010).
* A patient with a grievance over a surgical procedure of three years fatally shot their surgeon, another physician, and a third individual who was accompanying a family member to their appointment (Bellisle 2013).
* A former patient returned to a residential mental health facility and stabbed multiple workers and patients (Goldstein 2016).

In even more rare circumstances, the perpetrator/victim may have a legitimate relationship through the healthcare environment, but the violence may not physically on healthcare grounds.

* An individual attacked the doctor of his deceased mother while the doctor cycled to work. The doctor had performed surgery on the attacker’s mother over 20 years prior and the mother did not survive the operation (Karimi 2018).

**Type II: Patient/Visitor on Healthcare Participant** Type B (on non-worker)

A patient or visitor attacks other co-located patients or visitors in the healthcare setting. This violence typically occurs within a single episode, directed against other patients/visitors co-located in the same space. This relationship can be also be complicated by co-occurring mental illness, cognitive decline, or substance use and the residential nature of some healthcare facilities. An estimated one in five nursing home residents may be victims of verbal or physical abuse with physical attacks accounting for a quarter of incidents (Lachs et al. 2016). Furthermore, some psychiatric facilities maintain forensic units which house individuals with challenging psychopathology and histories of violence.

* A patient fatally beat his roommate in the forensic wing of a psychiatric hospital (Fenton 2011).
* A forensic patient fatally beat a fellow patient because “he didn’t like the guy” at a state psychiatric hospital (Christensen 2013).
* A patient used a piece of his wheelchair to fatally strike his roommate in a Rehabilitation and Nursing Center after a dispute about the curtains (Goodman 2013).
* A traumatic brain injury patient fatally beat an elderly co-resident of an assisted living facility because of a cupcake. The perpetrator had a previous history of violence (Cohen 2017).
* A former behavioral health patient returned to the hospital and fatally shot a patient and the patient’s sitter (Pavlak 2016).

For some cases, not enough information may be known to truly classify the relationship between patients and their visitors. There is always the potential for unknown gang or criminal connections, which may be denied by the individuals themselves, and thus the incident would be classified as Type IIB.

* Two visitors of the same patient had a physical altercation in the hospital parking lot, leading to a fatal shooting (WSOC 2019).

### Type III: Worker on Healthcare Participant

CHAT Type III violence has significant overlap with the traditional Peek-Asa violence definition of worker on worker violence: workers returning to their place of employment and enacting violence. Again, since a myriad of individuals may be present within the healthcare environment, there are more combinations of relationships between perpetrators and victims. Type IIIA concerns attacks on workers by past or present workers, Type IIIB concerns attacks on non-workers, usually other patients and visitors.

**Type III: Worker on Healthcare Participant** Type A (on worker)

A past or present healthcare worker attacks other past/present healthcare workers. This is often a past employee returning to the environment in the context of an unaddressed grievance.

* A previously employed physician returned to the hospital, fatally shooting one physician and injuring others including other physicians, medical trainees, and a patient. The physician had been employed years prior and resigned before his firing. They reportedly returned to the hospital in search of a physician they believed to be involved in their resignation. Two hours before the attack, the perpetrator sent an email to the New York Daily News describing their grievances (Prokupecz 2017).
* A central sterile supply worker fatally shot their nursing supervisor and an instrument management supervisor after being criticized about their job performance. The employee had no known history of violence (Robinson 2018).

**Type III: Worker on Healthcare Participant** Type B (on non-worker)

A current healthcare worker attacks patients or visitors within their healthcare setting. This is typically enacted as a form of abuse.

* A hospital employee stabbed a visitor during an altercation (Madison 2017).
* A hospital employee chronically attacked a forensic mental health patient (Besthoff 2019).
* A hospital employee was charged with sexually assaulting patients in a psychiatric hospital (Bellisle 2016).
* A group of nursing home employees were secretly recorded physically and verbally abusing a resident patient (Fearnow 2018).

### Type IV: Personal Relationship

Similar to the Peek-Asa model, CHAT Type IV violence includes all types of violence in which the attacker has a personal or social relationship with the intended victim. The attacker may have a valid reason for being in the healthcare environment, but the context for violence is primarily determined by the relationships between perpetrator and victim. This category includes domestic or intimate partner violence in the healthcare setting, but may also involve familial relationships. Type IVA concerns attacks on workers, Type IVB concerns attacks on non-workers, usually patients and visitors who are in the healthcare environment.

**Type IV: Personal Relationship** Type A (with worker)

The attacker has no specific relationship with the healthcare setting but has a personal relationship with the targeted healthcare worker. This category includes victims of domestic or familial violence who are attacked while at work. Most, but not all, Type IVA violence is enacted by an aggrieved partner or ex-partner of a hospital worker. Places of employment offer a regular schedule and known location where targets are likely to be, especially for former/current partners who are aware of their victim’s occupations.

* An ex-fiancé visited the emergency room where their former partner worked, engaged in an argument, and ultimately fatally shot the partner. The perpetrator also fatally shot a police officer and a pharmacy resident (Buckley 2018).
* An estranged partner visited a rehabilitation and nursing home and unable to locate their partner who was in a locked unit, fatally shot multiple patients and a staff member and wounded others (Associated Press 2011).
* A former partner fatally shot a nursing student while the student worked in the hospital (Esposito 2012).
* An individual shot a former partner outside the ambulance bay due to a grievance about their breakup (Rector 2019).
* An individual fatally shot their brother and two other workers while they were working at a group home for mentally disabled individuals. The perpetrator and victim had recently quarreled (Wingerter 2017) .

**Type IV: Personal Relationship** Type B (with non-worker)

The attacker has no specific relationship with the healthcare setting but has a personal relationship with the targeted patient or visitor. This category includes victims of domestic violence who are attacked while visiting the healthcare setting or family members who are injured after a change in medical status. The victim or patient’s illness can pose a double vulnerability of frailty and a known geographic location. Some attacks may be labeled as “mercy killings,” however classification is irrespective of motive and defined only by the context of the personal relationship.

* An individual stabbed their partner and other family members while the family was visiting an ill family member at a hospital. The perpetrator had recently the partner’s plans to move to a new location (Houde 2017).
* An individual fatally stabbed their partner after a dispute while waiting for their child to return from a procedure (Chandler 2017).
* An individual fatally shot their partner in their hospital bed, reportedly leaving a note that they wanted to end their partner’s suffering (Santina 2018).
* An individual shot their partner who was in the hospital after being paralyzed in a recent automobile accident (Corona 2014).
* An individual fatally shot their partner who was a resident of a hospital sub-acute rehabilitation center (Johnson 2018).

Attacks can occur across various familial relationships, oftentimes triggered by changes in a patient’s medical status.

* A son, the primary caretaker, fatally stabbed his chronically ill mother after she was re-admitted to the hospital (Burlew 2018).
* A son fatally shot his mother staying in the Intensive Care Unit after asking his stepfather to leave the room (Casey 2017).
* An individual fatally shot their parent and step-parent at their residence in a nursing home. The perpetrator also fatally shot other family members who lived in a home nearby (Hanna 2018).

### Type V: Ideological Targeting

Although not included in the traditional four category Peek-Asa model, ideological violence can occur in the healthcare setting. There is no personal, business, or healthcare service relationship between the attackers and targets, only an ideological relationship between the perpetrator and the ideas or values of the workers, organizations, and patients. In the healthcare setting such violence may be associated with specific politically or socially controversial medical services like abortion or gender and sexuality services. Healthcare workers may be targeted due to their association or role in providing these services, similarly for patients and visitors.

In the global context, Type V violence can also be seen in areas of crisis and conflict. Warring parties may target healthcare facilities in an effort to reduce the support and infrastructure of the opposition. Terrorist groups may also target healthcare workers, patients, and facilities knowing that these sites are populated and public. While Type VA concerns attacks on workers, Type VB concerns attacks on non-workers, usually patients and visitors, this distinction may be difficult to make. Full information may not be known about the incident during the crisis and large numbers of workers and non-workers may be injured at once. In these cases, the violence would be categorized as Type V without a letter distinction.

**Type V: Ideological Targeting** Type A (of worker)

The attacker has no relationship with the healthcare setting and no personal relationship with healthcare workers but has targeted them due a personal belief about their work. This category includes medical services like abortion or sex-reassignment surgery. Healthcare workers and patients may become victims of violence due to their association with medical services at odds of the attacker’s ideology. In the United States, this is most commonly associated with abortion services. In a 2015 incident, which helped inspired the Type V category, an individual opened fire on a Planned Parenthood Clinic, fatally shooting a police officer and injuring numerous other staff and patients (Shoichet 2015). One compilation of abortion-related violence counts eight murders, 17 attempted murders, 42 bombings, and 186 arsons since 1977, which includes the twice shot physician George Tiller (Frostenson 2015). A 2018 survey of women’s health clinics found that approximately 24% of clinics experienced severe violence defined as: blockades, clinic invasions, bombing, arson, chemical attacks, stalking, physical violence, gunfire, bomb threats, arson threats, and death threats. 52% of clinics reported threats targeted at doctors and staff with a threat breakdown of “blockades of clinic entrances (9.1%), stalking (7.3%), facility invasions (6.8%), death threats (3.2%), and physical violence (3.2%).” The study estimates that 45% of all abortion providers in the county experience severe threats or violence (Gaines 2018; Liss-Schultz 2015).

**Type V: Global Health Ideological Targeting**

Patients and visitors may also be targeted for their association with ideological topics like abortion or gender and sexuality services, although examples are less common. However, politically motivated attacks on healthcare facilities and personnel can occur in areas of armed conflict and emergency. Countries like Afghanistan, Iraq, Syria, Yemen, Libya, Nigeria, Mali, the Democratic Republic of Congo, and areas of the West Bank and Gaza Strip have seen violence using heavy weapons, abductions, chemical agents, and militarization of facilities (World Health Organization 2019). For example, Al Jala Hospital in Libya was attacked four times in 2018, 4 out of 46 attacks on healthcare facilities across the country that year (World Health Organization 2018). Earlier studies of conflict in Syria found that 59.5% of verified attacks involved health care facilities, injuring workers in 75% of attacks and injuring patients in 28.5% of attacks. Non-worker/non-patients were also injured in approximately half of verified attacks. The authors noted an increase in attacks on health services as the war progressed, but acknowledged that reporting abilities also significantly changed throughout the conflict (Elamein et al. 2017). Many organizations like the Human Rights Watch, International Committee of the Red Cross, Medecins Sans Frontieres, Physicians for Human Rights, and the World Health Organization are continuing to improve reporting methods for this type of violence.

### Type VI: Identifiable Third Parties

As a final addition, the CHAT Type VI categorization of violence strays most widely from the traditional Peek-Asa classification. Type VI is when a patient threatens violence against a non-healthcare-associated, but identifiable third party during a service encounter. The attacker then typically commits the act of violence outside the healthcare setting. Depending on the state, healthcare professionals may be subject to a duty to identify, warn, or protect potential targets. Therein lies an overlap of legal and clinical responsibility, confidentiality and public safety, doctoring and policing. Traditionally unique to mental and behavioral health providers, this challenge of assessing patient threats has also crept into emergency and primary care.

The most famous case of CHAT Type VI violence is that of Tatiana Tarasoff and the Tarasoff rulings. In this 1969 case, the attacker fatally injured Tarasoff in a method previously disclosed to the attacker’s therapists. While the therapists had notified the police and attempted commitment proceedings, no warning or method of protection reached Tarasoff or her family (Buckner and Firestone 2000; Felthous 2006). The case resulted in the Tarasoff I and Tarasoff II decisions which imply a duty to protect as follows:

When a therapist determines, or pursuant to the standards of his profession should determine, that his patient presents a serious danger of violence to another, he incurs an obligation to use reasonable care to protect the intended victim against such danger. ("Tarasoff v. Regents of the University of California" 1976)

Duty designation varies state by state from no statute to mandatory reporting. Most states utilize the ‘duty to protect’ clause, which can be fulfilled by warning the identified target, but can also be fulfilled by psychiatric commitment, involvement of law enforcement, or other unspecified reasonable actions (National Conference of State Legislatures 2018). Some states have expanded their definition to include the potential of any violent activity: “person is likely to engage in conduct that would result in serious harm to self or others” in the New York Mental Hygiene Law Section 9.46 (New York 2013) while granting professional and legal immunity to these mandatory reporters.

Although this legal and clinical responsibility varies by location, the triangulation of healthcare workers, perpetrators, and targets makes it important to have this violence classification. The following are additional milestone post-Tarasoff cases and rulings.

**Lipari v. Sears & Roebuck (1980, Nebraska)**

After terminating participation in a VA psychiatric day program, an attacker shot multiple people in a crowded nightclub. The attacker did not disclose his intentions for violence or recent purchase of a firearm to his therapists. The court ruled that the therapists had a duty to protect society at large from violent patients whether the patient specified an identifiable individual or not (Buckner and Firestone 2000; Andrews 2015).

**Zezulka v. Thapar (1997, Texas)**

After release from a psychiatric hospitalization, a patient fatally attacked his stepfather. The patient had been in long term outpatient care, but disclosed threats against the stepfather during his last psychiatric hospitalization. The courts focused on the question of a ‘duty to *warn*’ and determined that the treating psychiatrist did not a have a duty to warn the stepfather of the patient’s threats (Felthous 2006).

**Emerich v. Philadelphia Center for Human Development, Inc (1998, Pennsylvania)**

During an outpatient therapy session, a patient threatened to kill their partner, another patient of the practice. The therapist communicated the danger to the partner, warning them not to return home. However, the partner did return home and was fatally attacked by the patient. The eventual PA Supreme Court ruling established that mental health professionals have a “duty to warn” a third party and that the therapist had completed their duty in this case (Andrews 2015).

**Maas v. UPMC (2018, Pennsylvania)**

A long-term psychiatric patient, unhappy with his living placement, made threats to attack ‘the next-door neighbor and everyone’ and fatally attacked one neighbor a month later. The patient’s psychiatrist had chosen not commit the patient as he had made numerous such threats previously without any action and had not specifically identified an intended target. The patient lived in an apartment building with approximately 20 other people, the victim lived four doors down. Previous rulings stated that the therapist had a duty to warn all neighbors, but as of February 2019, the case is being reviewed by the PA Supreme Court ("Maas v. UPMC" 2018).

## Applying CHAT to Active Shooter Incidents in the United States

### FBI US Active Shooter Incidents

Using data from 2000-2018, the Federal Bureau of Investigation (FBI) has been tracking and reporting data on active shooter events in the United States. Active shooter incidents are defined by federal US agencies as “an individual actively engaged in killing or attempting to kill people in a confined and populated area.” The reports record *active shooter* events only, not all examples of mass killings or injuries that occur throughout the United States. The active shooter events can be in public or private spaces and the FBI expanded the term “confined and populated area,” to consider more open spaces like roadways and public gather spaces. The FBI data importantly excludes shootings resulting from gang or dug violence, accidental shooting and completed suicides in which there was no apparent intent to harm others. As of April 2019, the FBI has published four such reports, grouped for years 2000-2013, 2014-2015, 2016-2017, and 2018 (Blair 2014; ALERRT & FBI 2018b, 2018a; Schweit 2016).

### Methodology

In combining all four Incident Reports, 277 incidents are available for review. First, all health care related events will be selected for analysis. The Active Shooter Incident Report codes each incident into 11 location categories, including health care facilities. Health Care Facilities are defined as “Public or private facilities that provide primary or secondary health services. Examples include hospitals, clinics, and urgent care, hospice care, and retirement facilities (Blair 2014).” While this is an expansive definition, it is traditional to the hospital infrastructure and may not account for other services and professionals who work in other types of locations. All 277 events will be recoded for healthcare environment, non-healthcare environment based on the definition of Healthcare Environment used in section 1.2.1. This definition is inclusive of the definition used in the Incident Reports. Any discrepancies will be verified by a local public safety expert and physician.

After coding all healthcare environment incidents, the CHAT model will be applied to categorize each incident. Focus will be placed on the primary perpetrator/target relationship and collateral will be used if the necessary information is not readily available in the Active Shooter reports.

### CHAT Results

Of the 277 events from 2000-2018, 15 (5.4%) were re-coded as taking place in a healthcare environment. There were three discrepancies in coding compared to the Incident Report location coding. First, Family Dental Care is an outpatient dental clinic which was classified as commerce. Second, the University of Pittsburgh Medical Center- Western Psychiatric Institute and Clinic is an academic teaching hospital classified under education. Finally, the Inland Regional Center, a multi-service center those with developmental disabilities, was categorized as commerce. These was 100% concordance between coding and classifying for two reviewers.

Of the 15 incidents, zero were Type 1 (0%), six were Type II (40%), two were Type III (13%), six were Type IV (40%), 1 was Type V (7%), and zero were Type VI (0%). All incidents were targeting workers (Type A) with the exception of Helen Vine Recovery Center (Type IVB). It is important to note that any gang and drug related shootings were not included the FBI data collection and may have reduced the possibility for CHAT Type I incidents.

Sometimes not enough information is known to fully classify a situation, as the case is for the Inland Regional Center shootings. This case could be classified as Type IIIA and/or potentially Type V Ideological Violence. Known facts include: two perpetrators attacked the one perpetrator’s holiday work party, apparently after an argument. News reports link the perpetrators to Islamic radicalism and terrorism and suggest the active shooter incident may have been the result of religious ideological targeting. Indeed, this incident was one of the 2015 shootings which inspired the creation of the Type V Ideological Violence category. However, true ideological motives are not known, but it is known that the perpetrators attacked within the context of professional relationships and can be confidently categorized as type IIIA. All FBI Active Shooter Incident Report vignettes and collateral information is available in Appendix A.

Figure 2 Healthcare Environment Active Shooter Incidents by Year

Figure 3 CHAT Classification of Healthcare Environment Active Shooter Incidents

Table 3 CHAT Classification of Healthcare Environment Active Shooter Incidents

|  |  |  |  |
| --- | --- | --- | --- |
| **Active Shooter Incident** | **Year** | **FBI Health Care Location** | **CHAT Classification** |
| Parkwest Medical Center | 2010 | Health Care | Type IIA |
| University of Pittsburgh Medical Center, Western Psychiatric Institute and Clinic | 2012 | Education | Type IIA |
| St. Vincent’s Hospital | 2012 | Health Care | Type IIA |
| Renown Regional Medical Center | 2013 | Health Care | Type IIA |
| Sister Marie Lenahan Wellness Center | 2014 | Health Care | Type IIA |
| University of Cincinnati Medical Center | 2017 | Health Care | Type IIA |
| Inland Regional Center | 2015 | Commerce | Type IIIA  Type V |
| Bronx-Lebanon Hospital Center | 2017 | Health Care | Type IIIA |
| Pinelake Health and Rehabilitation Center | 2009 | Health Care | Type IVA |
| Family Dental Care | 2009 | Commerce | Type IVA |
| Group Home in Topeka, Kansas | 2017 | Health Care | Type IVA |
| Pine Kirk Care Center | 2017 | Health Care | Type IVA |
| Mercy Hospital & Medical Center | 2018 | Health Care | Type IVA |
| Helen Vine Recovery Center | 2018 | Health Care | Type IVB |
| Planned Parenthood – Colorado Springs Westside Health Center | 2015 | Health Care | Type VA |

# Threat Assessment and Management

Fortunately, while violence and progression along the pathway to violence may feel inevitable, it actually creates numerous opportunities for preventing targeted violence. Threat Assessment and Management is one such approach to identifying and mitigating targeted violence. While popular violence prevention programs typically promote Run-Hide-Fight, Stop the Bleed, or active shooter trainings, these interventions focus on *post*-attack mitigation and work only in the presence of a crisis. They contribute little to a culture of safety that focuses on preparation and prevention. Instead, workplaces can utilize the pathway to violence and the field of Threat Assessment to expand into workplace violence *prevention* and stop attacks before they even occur.

In the 1990s, Dr. Robert Fein and colleagues published four fundamental principles of threat assessment (Fein 1995):

1. Violence is a process, as well as an act. Violent behavior does not occur in a vacuum. Careful analysis of violent incidents shows that violent acts often are the culmination of long-developing, identifiable trails of problems, conflicts, disputes, and failures.
2. Violence is the product of an interaction among three factors:
   1. The individual who takes violent action.
   2. Stimulus or triggering conditions that lead the subject to see violence as an option, “way out,” or solution to problems or life situation.
   3. A setting that facilitates or permits the violence, or at least does not stop it from occurring.
3. A key to investigation and resolution of threat assessment cases is identification of the subject’s “attack-related” behaviors. Perpetrators of targeted acts of violence engage in discrete behaviors that precede and are linked to their attacks; they consider, plan, and prepare before engaging in violent actions.
4. Threatening situations are more likely to be successfully investigated and managed if other agencies and systems—both within and outside law enforcement or security organizations— are recognized and used to help solve problems presented by a given case. Examples of such systems are those employed by prosecutors; courts; probation, corrections, social service, and mental health agencies; employee assistance programs; victim’s assistance programs; and community groups.

Threat assessment and management is the process of gathering information, analyzing the *posed* threat of violence, and developing and implementing plans to mitigate this threat. Although the phrase is often shortened to “threat assessment,” the process consists of both assessment and management: the full cycle of gathering information, assessing, and intervening. This form of case-driven risk management uses an interdisciplinary team to transform the pathway to violence into a descending staircase, deescalating threats and providing alterative resolutions to initial grievances. Dr. Fein’s principles, which should sound very familiar after the discussion of the Pathway to Violence, are applied along five stages of threat assessment: (1) Identify threat, collect information, (2) Assess threat and potential for violence, (3) Create Prevention Plan, (4) Manage Prevention Plan, and (5) Follow up and Monitor (Peek-Asa 2017; Behavioral Analysis Unit 2016). It is important to note that timelines for each case may vary tremendously: some cases may be safely terminated in a few days, while others require years of follow up, and still others require repeat reassessments of new threats.

Figure 4 Five Stages of Threat Assessment

## Threat Assessment Teams in Healthcare

### Non-Healthcare Environment Teams

While Threat Assessment is a relative newcomer to the healthcare industry, it has been active in areas of national security, postal services, and in educational and religious organizations. The Federal Bureau of Investigation, and other associated national security agencies, have been the largest utilizers of threat assessment and have published widely on the topic. In 2017, the FBI Behavioral Analysis Group published “Making Prevention a Reality: Identifying, Assessing, and Managing the Threat of Targeted Attacks” which provides a robust introduction into the field and process of threat assessment. The FBI also publishes widely on active and mass shooter incidents, many of which has been previously cited in this paper. Similarly, the Secret Service hosts the National Threat Assessment Center ([www.secretservice.gov/protection/ntac](http://www.secretservice.gov/protection/ntac)) providing analysis of federal attacks and providing resources for school-based violence.

The US Postal Service also utilizes Threat Assessment Teams to protect workers inside and outside of postal facilities. Threat assessment teams are available at the district, area, and national headquarters levels. Core members are: Human Resources Manager, Labor Relations Manager, Safety Manager, District Manager or Operations Designee, Senior Plant Manager or Operations Designee, and a Postal Inspector. Guides and descriptions of the program are available through the US Postal Service publication “Threat Assessment Team Guide” (United States Postal Service 2015).

Unfortunately, some of the largest utilizers of threat assessment teams are educational and religious organizations. After the Columbine Shooting of 1999 and continued attacks up until the present, considerable focus and attention has been placed on keeping schools safe. Teams may operate at a local level like an area high school or may involve a sprawling campus of higher education. The US Department of Education has multiple publications on creating threat assessment teams in the school environment, most importantly two collaborative reports with the Secret Service titled “A Guide to Managing Threatening Situations and to Creating Safe School Climates” and “Campus Attacks: Targeted Violence Affecting Institutions of Higher Education” (Fein 2004; Drysdale 2010). Many religious organizations, especially if they include schools and community centers, will also develop threat assessment teams.

### Healthcare Environment Teams

**Safe at Hopkins (**[www.safeathopkins.org/](http://www.safeathopkins.org/))

One of the most developed healthcare threat assessment teams exists at Johns Hopkins University in Baltimore MD. Started in 2012-2013, Safe at Hopkins is a full range workplace prevention program, with resources for bullying, intimate partner violence, and easy access to reporting disruptive behavior. Just prior in 2010, Hopkins suffered a Type IIA attack of a visitor targeting his mother’s physician (Meehan 2019). Safe at Hopkins depends on a “Continuum of Disruptive Behaviors at Work” to help visitors and workers better understand the pathway to violence and which behaviors pose a threat. Behaviors range are: inappropriate behavior → Disrespectful, Rude, Discourteous Behavior → Mild Bullying → Moderate to Severe Bullying → Stalking → Domestic/Intimate Partner Violence → Stated Threats → Physical Violence → Serious Injury and Harm (Johns Hopkins University & Health System 2018). The Safe at Hopkins website provides education on recognizing and understanding this continuum, along with other resources for staff, managers, and visitors.

The Safe at Hopkins Threat Assessment team is retitled the “Risk Assessment Team” and is comprised of “human resources/labor relations, student affairs deans and/or the vice dean for faculty, Security, JHU or JHHS Legal, and the Faculty and Staff Assistance Program (FASAP) or the Johns Hopkins Student Assistance Program (JHSAP).” The team and its governance were specifically designed to exist outside of traditional departmental hierarchies with a specific focus on improving the broad culture of safety. The team is bolstered by a high-level executive to make recommendations, monitor an employee’s behavior, and have the authority to remove that individual from their position. During 2014-2015, Safe at Hopkins had 382 reports of disruptive behavior, conducted 55 in-depth reviews, referred most cases for additional support, and removed 9 individuals from their positions ((Dixon-Woods et al. 2019).

In this Dixon-Woods et al. study, which investigated the employee perspective of disruptive behaviors, there was a highly a positive reception for Safe at Hopkins and the Risk Assessment Team. It was seen as another method for accountability, especially for higher power employees deemed “untouchable” regardless of their behavior. Participants perceived the program to significantly shift the work culture and move towards an environment of safety and accountability.

**Veteran’s Health Administration Workplace Violence Prevention Program** (<https://www.publichealth.va.gov/about/occhealth/violence-prevention.asp>)

Another well-known and wide-reaching threat assessment program exists within the Veteran’s Health Administration, often known as the VA. Similar to the postal service, the program is designed nationally and enacted locally. Similar to Safe at Hopkins, the Disruptive Behavior Committee and Employee Threat Assessment Team are organized within a broader workplace violence prevention program. This program functions through employees recognizing and reporting disruptive behavior, leadership assessments and creations of management plans, and cross communication between leadership and personnel to avoid any further incidents in the future.

Purcell and Drexler published a case study of lessons learned from scaling the small Disruptive Behavior Committee into a larger threat assessment program (Purcell and Drexler 2018). They noted the difficulties of creating a fully operational, participatory group which was free from the traditional hierarchy and where each member felt equally able to contribute. Although the teams were fully disciplinary, it was helpful to have strong policies and protocols in place to emphasize the nonhierarchical method of reviewing cases. Furthermore, they reinforced the importance of clear and closable channels of communication: being able to talk quickly across departments and keep all parties updated on events and management strategies. The following are the ten lessons learned from the scaling and implementation of their program (Purcell and Drexler 2018):

1. Threat assessment teams function best when they are embedded in a comprehensive violence prevention program.

2. The gold standard in threat assessment combines standardized assessment and inter-disciplinary professional discussion; abandon either at your peril.

3. Threat assessment teams are strongest when they include diverse voices, and when every member feels empowered to ask questions and to share their perspective.

4. A threat is in the eye (and the body) of the beholder. It is no less real, and no less significant, for that fact.

5. Threat assessment is (mostly) evidence-based, but threat response is (mostly) values-driven; choose those values consciously and wisely.

6. Patient record flags and other warning systems do stigmatize; they are also necessary. Apply with extreme caution.

7. Stay creative and be comprehensive when evaluating threat management options.

8. Always close the loop with the people impacted by your actions—including the reporter and the clinical team— even if the decision is to do nothing but watch and wait.

9. Your threat management plans will not please everyone, but you must make a good faith effort to help people understand why you recommend the chosen course of action.

10. All assessments and actions are provisional; mistakes will be made and reality will change.

## Ethics, Law, and Uncertainty

While integrating public health and threat assessment within the healthcare environment can provide the best of both fields, it can also increase their complexity and uncertainties. Healthcare environments have strong legal codes, ethical responsibilities, and implied morals. Maintaining security and public safety have their own sets of codes, ethics, and responsibilities. Many of public health’s ethical principles and quandaries apply equally to this application of the Public Health Approach and Threat Assessment. Some of these overlap in new ways to create sticky situations not otherwise seen in other industries.

### Intuition and Bias

Just like in medical diagnosis, sometimes it is necessary to “go with your gut.” Many violence experts like Gavin DeBecker, author of The Gift of Fear, frequently highlight the importance of intuition, synthesizing important information which is not always consciously accessible and often crucial in a crisis. However, intuitive senses are also complicated by a lifetime of socialization and culture, and very few of our decisions are free from bias. This is specifically relevant for issues of public safety where certain groups are often perceived as more dangerous than they typically are: people of color, people perceived as being Muslim, or people with disability who have atypical behavior patterns and do not respond as quickly as expected (for example those who are deaf or have cognitive decline). Perceived safety race has been highly studied and people of color are consistently perceived as more threatening and violent, especially if they are a black male (Kahn 2018). There are numerous examples of this discriminatory bias and calling in public security for benign situations in policing, education discipline, and even in Starbucks. Such bias is incredibly tricky as some is unconscious and acting below the surface. However all bias can be modified through examination, education, and discussion. Thus, it is important for threat assessment teams to complete anti-discrimination trainings relevant in their cultures and communities, and provide such ongoing training and awareness for their employees.

### Clinical and Actuarial

A similar debate arises regarding the use of clinical judgement and actuarial tools. This is very pertinent to healthcare environment not only because behavioral health professionals are a key part of the team, but behavioral and emergency facilities have such high rates of violence. Like intuition, clinical judgement can be honed over years of experience and can be flexible to the case-by-case basis. Meanwhile, actuarial tools, like risk assessment interviews, can be useful to gather information and making assessments and may be used by professionals of different skill levels. A dilemma may ensue if a clinician feels a worksheet is replacing their expertise, but a team member feels clinician is subjective influenced in the case. Unfortunately, both are subject to bias and often neither one is perfect for each situation. As always, a combination of these two approaches, supported by consistent protocols for case review, will often be required. As Purcell and Dexler suggest in their 2018 paper: “Abandon Either at Your Peril.”

### Privacy and Public Safety

A constant challenge for public health, security, and the healthcare environment is the protection of public safety at the cost of privacy. This not only carries over the usual debates over invasion of privacy, but is also complicated by the presence of medical information and the blurred boundary between public and private life. Teams must decide when it is necessary to invade privacy with the assistance of law enforcement: tracking, monitoring, and personal data collection. Social media has been an increasing source of communications of all types, including threats and manifestos, and may require additional investigation. Furthermore, with HIPPA laws in place to minimize personal health information to a “need-to-know” basis, it can be challenging to determine what information to share with a widely interdisciplinary team. Behavioral health information is subject to even more restrictions and may not be initially accessible by most of the team. Each organization will need to develop clear and concise protocols on how to manage personal and protected information while keeping public safety its first priority.

### Public Places and Private Spaces

An additional complication of the public versus private dilemma is the overlap between public places and private spaces within the healthcare environment. If an individual is a permanent resident of a nursing home, is a threat within the facility (*their home*) the same as if that threat was made in a clinic office? Is the quarrel between two long term roommates the same inside the facility versus out? Does this change for forensic facilities? Where does public safety begin and end in spaces where people live for months to years on end?

Also, where is the boundary for protecting workers between their work and personal lives? Health professionals are often defined in the community by their professions and it can be unclear when they step out of their clinical roles and into their personal life. It can be tricky to determine when safety should be monitored through the healthcare threat assessment team or the worker’s local law enforcement. For example: what if an individual threatens to attack a worker at their home? What if the team becomes aware that the threatener has been visiting sites near the worker’s home? What if an intimate partner enters the workplace and makes threats? Since that attacker-target relationship has overlapped with the healthcare environment, what is the role of local law enforcement versus the threat assessment team? Ideally the solution would be communication between both entities, but in larger or more geographically spaced locations, these relationships may not always be in place.

### Identification and Stigma

Like the challenges of bias and privacy, there is the sticky situation of labeling patients as ‘red flags’ or dangerous. In the VA, patient charts can have advisories, recommendations or behavioral flags that are accessible to other health professionals and notifications are sent to the patients regarding their placement and rationale. Such flags can be very important for communicating risk and can also be highly stigmatizing for patients. It is unclear if the system empirically improves worker safety; the few studies available are not uniformly conclusive. Instead, the flags may simply dissuade such veterans from returning to the VA, which is very challenging to measure, or may bias workers to treat flagged veterans differently than necessary and potentially provide sub-par care (Weinberger et al. 2018). Due to the complexity of the medical record, an individual may remain flagged for an extended period of time regardless of their threat status if there is not a process for closing that loop. While this type of marking can be an effective communication tool, if not properly maintained, it may serve the negative function of branding patients as dangerous or difficult for an unspecified period of time.

### False Alarms and Alternative Uses

Finally, as a culmination of the above challenges, threat assessment teams and protocols may be used in unintended ways. Most obviously, there can be malicious false reporting. This could from workers, patients, or visitors alike and for any number of combinations of those three. In these cases, reporting may be intentionally used as retribution or to intimidate other individuals. Teams will need protocols to handle reports that are not made “in good faith.”

Along the lines of stigma and labeling, threat assessment reporting by intentionally or unintentionally be used to label difficult, frustrating, or disagreeable patients who are not threatening or violent. In the VA case examples, this may be a veteran upset about his benefits denial who becomes agitated and distressed, but poses little threat. Workers may such flag patients, hoping reduce their burden or avoid seeing those patients again. This can also be true for the reverse interaction between patients/visitors towards healthcare workers with patients reporting workers after a disagreeable, but non-threatening interaction. All forms of bias can affect these reporting behaviors. Data collection and quality education will be important to notice and correct such patterns if they arise.

# Conclusion

Unfortunately, violence happens in the healthcare workplace. Violence can be enacted by workers, patients, and/or visitors towards workers, patients, and/or visitors. Healthcare organizations need strong violence prevention programs and an orientation towards public health to provide a safe, healing environment. Healthcare workplace violence prevention is the ideal opportunity to integrate public health approaches with the field of Threat Assessment and Management. The first step on the Public Health Approach to Violence Prevention and a workplace culture of safety requires establishing a common language for discussion and data collection around workplace violence. By counting events and observing patterns of behavior, healthcare systems can identify objective indicators of impending violence and to consolidate evidence-based strategies for violence prevention. The Peek-Asa categorization of general workplace violence has greatly impacted the field of threat assessment and management, however, the healthcare environment with its complexity and diversity can benefit from a tailored categorization of its own. This paper proposes an adapted six-category model for Classifying Healthcare Attacks and Threats, accounting for workers, patients, ideological threats, and legal duties. Like Peek-Asa, CHAT is defined by the relationship of the attacker to the target, but provides more contextual flexibility that is needed for the healthcare environment.

Using CHAT, healthcare organizations can move along to the next steps of the Approach: (2) Identify Risk and Protective Factors, (3) Develop and Test Prevention Strategies. Organizations can classify what types of violence are prevalent in their environment. Based on data from the FBI Active Shooter Reports, the targeted healthcare violence was dominated by Type II and IV violence, attacks by patients on workers and attacks by intimate partners against workers. Knowing the distribution of such attacks will allow for more tailored programs and the CHAT classification can allow for more accurate and precise evaluation.

As part of the Public Health Approach to Violence Prevention, threat assessment and management has the potential to identify, mitigate, and prevent violence. It been used widely amongst other industries like federal security, education, and religious organizations and has healthcare leaders through Safe at Hopkins and the Veteran’s Health Administration. Successful threat assessment teams are supported by strong policies and organizational champions to produce interdisciplinary governance, cross-departmental communication, and navigate ethical challenges and uncertainties. Through threat assessment, targeted workplace violence, while harmful and disturbing, is identifiable, measurable, and preventable. Healthcare threat assessment is another important public health approach to violence prevention that ensures the health, safety, and well-being of our communities.

* + - * 1. Applying CHAT to Active Shooter Incidents in the United States

Healthcare Environment Active Shooter Incidents FBI Report Vignettes

(\*) indicates collateral information available below

|  |  |  |
| --- | --- | --- |
| **Active Shooter Incident** | **Year** | **FBI Health Care Location** |
| **Pinelake Health and Rehabilitation Center** | 2009 | Health Care |
| On March 29, 2009, at 10:00 a.m., Robert Kenneth Stewart, 45, armed with a handgun, a shotgun, and a rifle, began shooting in the Pinelake Health and Rehabilitation Center in Carthage, North Carolina, where his estranged wife worked. He did not find her. Eight people were killed; three were wounded, including one police officer. The shooter was apprehended after being wounded during an exchange of gunfire with police. |
| **Family Dental Care** | 2009 | Commerce |
| On July 1, 2009, at 10:30 a.m., Jaime Paredes, 30, armed with a rifle, allegedly began shooting in his wife’s place of employment, Family Dental Care office in Simi Valley, California. She had recently filed for divorce. His wife was killed; four were wounded. The shooter was apprehended by police. |
| **Parkwest Medical Center** | 2010 | Health Care |
| On April 19, 2010, at 4:30 p.m., Abdo Ibssa, 38, armed with a handgun, began shooting in the Parkwest Medical Center in Knoxville, Tennessee. He had been distressed over the outcome of his recent surgery and was trying to find his doctor, who he believed had implanted a microchip in him. When he was unable to find the doctor, he moved to the emergency room and began shooting. One person was killed; two were wounded. The shooter committed suicide before police arrived. |
| **University of Pittsburgh Medical Center, Western Psychiatric Institute and Clinic\*** | 2012 | Education |
| On March 8, 2012, at 1:40 p.m., John Schick, 30, armed with two handguns, began shooting inside the lobby of the Western Psychiatric Institute and Clinic at the University of Pittsburgh Medical Center in Pittsburgh, Pennsylvania. One person was killed; seven were wounded, including one police officer. The shooter was killed by University of Pittsburgh police. |
| **St. Vincent’s Hospital\*** | 2012 | Health Care |
| On December 15, 2012, at 4:00 a.m., Jason Heath Letts, 38, armed with a handgun, began shooting in St. Vincent’s Hospital in Birmingham, Alabama. No one was killed; three were wounded, including one police officer. The shooter was killed by police. |
| **Renown Regional Medical Center\*** | 2013 | Health Care |
| On December 17, 2013, at 2:00 p.m., Alan Oliver Frazier, 51, armed with a shotgun and two handguns, began shooting in the Renown Regional Medical Center in Reno, Nevada. One person was killed; two were wounded. The shooter committed suicide at the scene after police arrived. |
| **Sister Marie Lenahan Wellness Center** | 2014 | Health Care |
| On July 24, 2014, at 2:20 p.m., Richard Steven Plotts, 49, armed with a handgun entered his psychiatrist’s office at Sister Marie Lenahan Wellness Center in Darby, Pennsylvania, and began shooting, killing his caseworker and wounding his doctor. The doctor, who possessed a valid firearms permit, returned fire. One person was killed; 1 was wounded. Employees restrained the wounded shooter until law enforcement arrived. |
| **Planned Parenthood – Colorado Springs Westside Health Center** | 2015 | Health Care |
| On November 27, 2015, at 11:38 a.m., Robert Lewis Dear, Jr., 57, armed with a rifle, allegedly began shooting at a Planned Parenthood - Colorado Springs Westside Health Center in Colorado Springs, Colorado. Three people were killed, including a law enforcement officer; 9 were wounded, including 5 law enforcement officers. The shooter eventually surrendered to law enforcement after the exchange of gunfire. |
| **Inland Regional Center\*** | 2015 | Commerce |
| On December 2, 2015, at 11:30 a.m., husband and wife, Syed Rizwan Farook, 28, and Tashfeen Malik (female), 29, armed with two rifles, two handguns, and an explosive device, began shooting in the parking lot of the Inland Regional Center in San Bernardino, California. They moved inside the building, shooting at coworkers of one of the shooters. Fourteen people were killed; 22 were wounded. The shooters fled the scene; they were killed a few hours later during an exchange of gunfire with law enforcement. |
| **Group Home in Topeka, Kansas** | 2017 | Health Care |
| On April 30, 2017, at 3:50 p.m., Joshua James Ray Gueary, 25, armed with a handgun, began shooting inside a group home for adults with special needs in Topeka, Kansas. Three people were killed (including the shooter’s brother who worked at the residence); one person was wounded. The shooter committed suicide at the scene before law enforcement arrived. |
| **Pine Kirk Care Center** | 2017 | Health Care |
| On May 12, 2017, at 7:30 a.m., Thomas Harry Hartless, 43, armed with a shotgun and a handgun, began shooting inside the Pink Kirk Care Center in Kirkersville, Ohio. Two employees were killed, including the shooter’s ex-girlfriend. Prior to the incident, the shooter had taken two people hostage behind the building to prevent them from revealing his presence. One of the hostages secretly dialed 911 and left the line open. A law enforcement officer responded to the open-line call and was ambushed after getting out of his vehicle. The two hostages escaped. In total, three people were killed (including one law enforcement officer); no one was wounded. The shooter committed suicide at the scene before additional law enforcement arrived. |
| **Bronx-Lebanon Hospital Center** | 2017 | Health Care |
| On June 30, 2017, at 2:50 p.m., Dr. Henry Michael Bello, 45, armed with a rifle, began shooting inside the Bronx-Lebanon Hospital Center in Bronx, New York. The shooter was a former employee who had resigned in 2015 in anticipation of being fired. One person was killed; six were wounded. The shooter committed suicide before law enforcement arrived. |
| **University of Cincinnati Medical Center\*** | 2017 | Health Care |
| On December 20, 2017, at 2:00 p.m., Isaiah Currie, 20, armed with two handguns, began shooting in the lobby of the psychiatric emergency services wing of the University of Cincinnati Medical Center in Cincinnati, Ohio. The shooter struggled with and shot an unarmed security guard and fired several shots at a responding off-duty law enforcement officer working security nearby. No one was killed; one was wounded (an unarmed security guard). The shooter committed suicide at the scene as additional law enforcement arrived. |
| **Helen Vine Recovery Center\*** | 2018 | Health Care |
| On November 5, 2018, at 1:30 a.m., Davance Lamar Reed, 37, armed with a handgun, began shooting in the Helen Vine Recovery Center in San Rafael, California. He then fled the scene. One person (an employee) was killed; two (an employee and the shooter’s girlfriend) were wounded. The shooter was apprehended by law enforcement during an unrelated vehicle pursuit in a nearby county. |
| **Mercy Hospital & Medical Center** | 2018 | Health Care |
| On November 19, 2018, at 3:20 p.m., Juan Lopez, 32, armed with a handgun, began shooting at the Mercy Hospital & Medical Center in Chicago, Illinois. The shooter shot his former fiancée, an emergency room doctor, in the parking lot, then shot two people inside the hospital. Three people (including one law enforcement officer) were killed; no one was wounded. The shooter committed suicide after being shot by law enforcement during an exchange of gunfire. |

Healthcare Environment Active Shooter Incident Collateral

For the following incidents, not enough information was provided in the Report vignettes to determine the relationship between the perpetrator and target. Additional collateral information and news reports were sourced and provided here.

**University of Pittsburgh Medical Center, Western Psychiatric Institute and Clinic**

“Shick's months of treatment at UPMC, which he ended by taking himself off antipsychotic medications, resulted in increasingly erratic behavior. Twice, the suit claims, UPMC's re:solve mobile crisis unit was dispatched to Shick's North Oakland apartment, but clinicians in the field never managed to assess him.

On March 8, 2012, Shick, 30, walked into the Oakland mental hospital with two handguns. He shot Mrs. Leight, 66, of Shaler and four others, and killed therapist Michael Schaab, before being fatally shot by police.” (Silver 2013).

**St. Vincent’s Hospital**

“A man who fired on Birmingham police officers before he was shot to death early today was upset about his wife's care. The man was ejected from St. Vincent's hospital about 8 p.m. sources tell Al.com. He returned about 4 a.m. and went up to the 5th floor where his wife was a patient.

Sources say he briefly took a security guard hostage but the guard escaped. While in the hospital the second time, sources say the man talked about "meeting his maker." When police arrived on the 5th floor, he opened fire. Two officers returned fire, killing the man.” (Robinson 2012).

**Renown Regional Medical Center**

“A California man who allegedly shot and killed a doctor and injured two other people at a Reno medical office spent three years struggling with ailments resulting from a botched vasectomy, according to messages he posted on an online support group and a law enforcement investigation.

Reno police confirmed Thursday that 51-year-old Alan Oliver Frazier's focus during Tuesday's shooting was the doctors at Urology Nevada.” (Bellisle 2013)

**Inland Regional Center**

“The FBI said it was investigating the shooting as an act of terrorism after it emerged that Malik had posted a pledge of allegiance on Facebook to the leader of the Islamic State, a message made on behalf of both attackers. Authorities say both were radicalized for some time before the attack, although investigators said they do not think Malik and Farook were directly guided by a foreign terrorist group.”

“In a new interview broadcast this week, the police chief in San Bernardino said authorities believe that the specifics of the attack — targeting that particular gathering at that time — may have been motivated by the holiday party set to take place in the same room after the training ended. The chief, Jarrod Burguan, cited comments made by the female attacker before the shooting.

Malik had said online “that she didn’t think that a Muslim should have to participate in a non-Muslim holiday or event,” Burguan told ABC News.

The room where the training occurred — the same room where the health department had held active-shooter training earlier that year — was filled at the time with Christmas decorations, including a large Christmas tree, ornaments and items on the walls.” (Berman 2016).

**University of Cincinnati Medical Center**

“The man who shot and wounded a security officer and then killed himself at a University of Cincinnati psychiatric unit was mentally ill and faced charges in a November shooting, court documents say.”

“In that case, Currie, who was 18 at the time, was found not mentally competent to stand trial. While he was being held at a mental health facility in Roselawn, a judge ordered him to be forcibly medicated. He eventually pleaded guilty, was credited for 23 days spent in confinement and was placed on probation.” (Grasha 2017).

**Helen Vine Recovery Center**

“Brittany McCann was trying to check her boyfriend into the Helen Vine Recovery Center early Monday in Marin County so he could get help with addiction.

But rather than entering the inpatient rehab center and starting on a road to recovery, the boyfriend, 37-year-old Davance Lamar Reed, went on a shooting spree, killing one man and seriously wounding McCann and another victim, the woman’s father told The Chronicle on Tuesday.” (McBride 2018).

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