Work-Associated Trauma

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Abstract

Traumatic events are experienced by most people at some point in their life. Following a traumatic event many individuals return to previous functioning and some feel an increased sense of efficacy. However, a sizable minority experience adverse psychological and behavioral effects. These effects include distress reactions, health risk behaviors, and psychiatric disorders. Workplace traumatic events and responses most studied in physicians include exposure to injured and dying patients, medical errors and complications, bullying, disasters, and workplace violence. Developmental issues confer specific risks for medical students and residents, as well as early and late career physicians. Prevention measures which reduce exposure to workplace trauma are optimal. Physicians exposed to traumatic events will benefit from the use of prompt, evidence-based interventions. Many will seek and benefit from self-help interventions and peer support, but some may need formal assessment and treatment through employee assistance programs and traditional psychiatric care. Effective prevention and treatment can enhance physician well-being and career retention as well as patient outcomes.

2.1 Scope of the Problem

Exposure to traumatic events is an unavoidable part of medical practice. From the beginning of medical education when students first lay eyes on cadavers through their later years as seasoned physicians, the very nature of medicine is to come closer to death and serious injury than the rest of society. Physicians also experience traumatic events such as workplace violence at rates higher than most occupations. When natural and man-made disasters occur, hospitals and physicians bear the brunt of caring for those injured and sickened. Significant literature exists on the impact of traumatic events and disaster on individuals and populations. Evidence suggests that physicians experience witnessing injury and death differently and employ different methods of coping. Strategies to mitigate stress and distress due to work-associated trauma should take into account these differences. For this reason, any discussion of physician health and mental well-being must include how physicians experience traumatic events and their immediate and persisting effects.

In order to understand work-associated trauma, it is first necessary to properly define terms. Medical and other literature liberally use the terms trauma and traumatized to describe a broad range of stressful life events including traumatic events, stressors, and adversity. More significantly, there is a tendency to blur the boundary between events and reactions. From a diagnostic and research perspective, it is useful to be more precise and circumscribed in defining trauma. Trauma, derived from the Greek word meaning “wound,” in its simplest definition is a physical or mental injury. The diagnostic criteria for Posttraumatic Stress Disorder...
PTSD) describe traumatic events as exposure to actual or threatened death, serious injury or sexual violence through direct experience, witnessing, or repeated or extreme exposure to aversive details (DSM-5, 2013). Traumatic events are defined by these characteristics, whether or not the individual goes on to develop symptoms. Traumatic stress refers to the range of distress responses, health risk behaviors, and psychiatric disorders that can occur in response to traumatic events. Stressors are defined as external stimuli that disrupt the equilibrium of an individual. Adversity refers to longer-term, sociological and community-based negative stressors that affect individuals or groups. For the purposes of this chapter we will discuss a broad range of stressors and adversity that lead to psychological responses, most of them will be traumatic events.

Physicians and other healthcare workers have the potential for exposure to a wide range of traumatic events. Table 2.1 summarizes some common traumatic events experienced by physicians. Caring for large numbers of patients or patients with whom the physician can identify strongly can induce traumatic stress in caregivers. Exposure to chemical, radiological, or infectious agents can be a traumatic event. Finally, physicians can be subject to adversity in the work environment through harassment, bullying, threats, and assault in the workplace. The following sections will discuss various traumatic events, stressors, and adversity related to the healthcare workplace and their impact on physician mental health.

| Table 2.1 | Examples of traumatic events experienced by physicians |
|------------|--------------------------------------------------------|
|            | Unexpected or sudden patient death                      |
|            | Medical errors and complications                         |
|            | Treating seriously ill or injured children               |
|            | Exposure to chemical, radiologic, or infectious agents   |
|            | Natural disasters/man-made disasters                     |
|            | -- Large numbers of sick and injured patients            |
|            | -- Loss of infrastructure and resources to care for patients |
|            | -- Making triage decisions and rationing care            |
|            | -- Family members injured or in danger                   |
|            | Mass violence                                           |
|            | -- Treating seriously injured patients                   |
|            | -- Large numbers of wounded patients                     |
|            | -- Attack in or near healthcare facility                 |
|            | Workplace violence                                       |
2.2 Causes and Consequences

Literature on the effects of traumatic events comes largely from studies of individual and community responses to emergency and disaster events. Most individuals exposed to traumatic events will emerge with limited or no adverse effects, promptly and effectively resuming their social and occupational roles (resilience). Some may even experience an increased sense of competence, self-efficacy, and belief in their ability to manage future stressors (often termed “posttraumatic growth”). However, a sizable minority will experience a range of adverse psychological and behavioral effects, including distress reactions, health risk behaviors, and psychiatric disorders (see Fig. 2.1).

Following a traumatic event, distress reactions are most common. Individuals often feel anger and vulnerability. A loss of faith and demoralization may also occur. Many individuals experience insomnia, irritability, and feelings of distractibility (Rundell and Ursano 1996). Some individuals display physical symptoms as a manifestation of psychological distress, ultimately presenting to healthcare settings. Somatic complaints such as headache, dizziness, nausea, fatigue, and weakness are common in the wake of a traumatic event, even when an identifiable physical disorder cannot be found (Ford 1997). Most who seek care present to primary care and emergency settings. An awareness of distress reactions as a frequent consequence of traumatic events is important for primary care and emergency providers to avoid misattribution of these symptoms to other medical causes, ultimately delaying definitive care.

Fig. 2.1 Psychological and behavioral responses to traumatic events
Health risk behaviors are also increased following traumatic events. Increased use of alcohol, caffeine, and tobacco are common mechanisms for self-medicating distress or symptoms of traumatic stress (Vlahov et al. 2002). A decreased sense of safety may lead to restricting of activities and isolation, which reduce access to helpful social support networks (Rubin et al. 2005). Intimate partner and community violence may increase as distress escalates (Harville et al. 2011).

Psychiatric disorders develop in some individuals following traumatic events. The most studied of these is Posttraumatic Stress Disorder (PTSD) (Ursano et al. 2010). Many studies suggest that approximately 10–20% of those exposed to a traumatic event will develop PTSD, though many more individuals will experience milder symptoms, which can persist and become problematic (Goldmann and Galea 2014). The course of PTSD varies, though intentional acts of violence often result in escalating symptoms over time (see Fig. 2.2). PTSD is not the only trauma-related disorder, nor perhaps the most common (Fullerton and Ursano 1997). Some studies find depression to occur even more frequently than PTSD following disaster (Miguel-Tobal et al. 2006), with others experiencing generalized anxiety disorder, panic disorder, and increased substance use (North et al. 2002).

There are certain characteristics of traumatic events that have the ability to amplify or mitigate traumatic stress responses. Duration and intensity of exposure to traumatic events are the most consistent factors predicting adverse outcomes in exposed populations. Natural disasters tend to generate lower levels of impairment than technological disasters or episodes of mass violence (Norris et al. 2002). Events that are the result

![Fig. 2.2 Median prevalence of PTSD in DSM-5-Experiencing categories of intentional and non-intentional trauma (N = 14 and 21 studies, respectively) (Santiago et al. 2013)](image-url)
of intentional human action tend to result in the most severe psychological impact. Events with significant uncertainty about immediate risk and the potential for lasting effects, such as exposure to infectious diseases or nuclear material, tend to generate unique, widespread, and lasting psychological effects.

There is a dose-related response to traumatic events that impacts the likelihood of traumatic stress. For example, a vascular surgeon amputating the leg of a single patient in a day is unlikely to develop a distress response or psychiatric disorder. The same surgeon having to amputate seven legs following a terrorist blast has a significantly increased likelihood of experiencing insomnia, increased alcohol use, or feelings of detachment from family and coworkers.

2.2.1 Injured and Dying Patients

From the beginning of medical education, physicians in training are exposed to death and serious injury. For many, initial exposure to death and injury is a traumatic event, but the expected outcome of graduated exposure to death and injury is to produce resilient physicians. Most physicians’ first exposure to death and the dead occurs early in medical education in the gross anatomy laboratory. Research indicates many students experience anxiety during dissections (Grochowski et al. 2014), but gradually accommodate to being around cadavers, with decreasing rates of symptoms such as intrusive imagery between the first and second semesters of medical school (Bob et al. 2014). Other aspects of medical education can generate distress in students and are worth noting. Students experience significant distress related to personal feelings, interpersonal dynamics, and their relationship to patients’ suffering or death during simulation in medical education (Pai et al. 2014).

Physicians continue to experience reactions to injury and death throughout their careers. No specialty is immune. In a survey of 113 surgeons, one in five reported symptoms consistent with a PTSD diagnosis, and two-thirds exhibited some symptoms. This was independent of the amount of exposure to surgical trauma patients (Warren et al. 2013). Oncologists experience the death of patients on a frequent basis as a traumatic event. In his book The Emperor of all Maladies, Dr. Siddhartha Mukherjee captured his experience of this by writing, “In the parking lot of the hospital, a chilly, concrete box lit by neon floodlights, I spent the end of every evening and the end of rounds in stunned incoherence, the car radio crackling vacantly in the background, as I compulsively tried to reconstruct the events of the day. The stories of my patients consumed me, and the decisions that I made haunted me” (Mukherjee 2011). In this environment, some individuals develop coping mechanisms that ultimately reduce their experience of distress. However, coping mechanisms that involve numbing, avoidance, or shutting off emotions can result in decreased empathy, potentially impairing a physician’s ability to provide adequate patient care (McFarland and Roth 2016).

Death of or injury to a child is a particularly traumatic event for all physicians. In a study of Belgian emergency physicians, 36% reported that sudden death of a young person or trauma/accidents involving young people was their most significant traumatic event (Somville et al. 2016). Identification with those who have
been severely harmed (“that could have been me”) increases risk for adverse psychological symptoms (Herberman Mash et al. 2016). Having children of their own contributed to this effect. Psychiatrists face the particularly challenging traumatic event of patient suicide. In a 15-year survey of Canadian psychiatrists and trainees, half experienced a patient suicide. Of those who experienced a patient suicide, 60% did so by the end of their first year of training (Ruskin et al. 2004).

### 2.2.2 Medical Errors and Complications

Another potential traumatic event for any physician results from action or inaction in their daily work that results in harm to patients—medical errors and complications. Medical errors are the third leading cause of death in the United States (Makary and Daniel 2016) and have the potential to occur in every specialty and every setting. The term “second victim” has been used to describe physicians involved in medical errors and complications (Wu 2000). Scott et al. performed an in-depth analysis of 31 “second victim” physicians who indicated developing symptoms consistent with PTSD. These physicians recalled distressing aspects of the event in extraordinary detail many years later, reported ruminative thoughts about the event that adversely affected work and sleep, and experienced abrupt emotional recollection of the event when confronted by triggers such as a patient with a similar name or performing the same procedure in the same location (Scott et al. 2009). A study of critical care personnel who committed medical errors identified symptoms of guilt (53.8%), shame (42.5%), and anxious rumination (37.5%) (Laurent et al. 2014). Other symptoms following medical errors include anxiety about future potential errors (52%), loss of confidence in abilities as a physician (45%), and sleep disruption (36%) (McLennan et al. 2015). Surgical disciplines experience similar rates, with 53% of surgeons reporting an adverse patient event in the last year as a traumatic event (Hu et al. 2012). Malpractice cases can be another source of continuing stress with 25% of 7164 surgeons reporting a lawsuit within the past 24 months, which was associated with burnout, depression, and suicidal thoughts (Balch et al. 2011). In an effort to cope, physicians may turn to risky behaviors. In a 1991 survey, Wenokur and colleagues identified increased alcohol use among 11% of physicians sued for malpractice. Fifty-four percent of the affected physicians considered their ability to care for patients compromised but only 6% sought any type of mental health treatment (Wenokur and Campbell 1991).

### 2.2.3 Bullying

Bullying of physicians in the workplace occurs both in-person and online, and is experienced by physicians in various levels of training and across disciplines. Although not classified as a traumatic event by DSM 5 criteria for PTSD, workplace bullying is a significant stressor and should be considered in this discussion of physicians and work-associated trauma. The experience of workplace bullying is an
international phenomenon, though most research on the subject has occurred in developed countries. Bullying in medicine has also received increased media attention (Chen 2012; Srivastava 2015) and is considered significantly established that the topic has its own Wikipedia page (Wikipedia page). Depressive symptoms have been associated with physician bullying, for as long as 3 years following the incident (Loerbroks et al. 2015). Nearly 16% of those experiencing bullying reported posttraumatic stress symptoms above the threshold score on the Impact of Events Scale-Revised (Malinauskiene and Einarsen 2014).

Though direct in-person bullying has historically been the primary means by which these events occur, cyberbullying is an increasing problem. A study of physician trainees found that 46.2% experienced cyberbullying, which reduced job satisfaction and increased mental strain (Farley et al. 2015). Fellow trainees were the perpetrators in most instances, outpacing the frequency of bullying by managers by nearly threefold.

A significant challenge to addressing bullying involves fear of reprisals. In the healthcare setting, trainees and junior physicians may be particularly vulnerable. The increased use of mobile technology and social media within the healthcare field present both challenges and opportunities in the management of physician bullying. Healthcare entities can begin to address bullying of physicians by establishing a culture of mutual respect and zero-tolerance policies, which reduces fear and stigma associated with reporting incidents of bullying.

2.2.4 Disasters

Disasters are natural or man-made events which injure or sicken large numbers of people, significantly damage property and infrastructure, and overwhelm existing resources. Healthcare workers find themselves doubly exposed to trauma during disasters. Not only must they care for sick and injured patients with limited resources, they or their family may also directly experience traumatic events. There is limited literature specifically looking at physician responses to traumatic events related to disasters, but much can be extrapolated from general disaster literature. Physician disaster responders may be exposed to mass death and injury, grotesque and disturbing sensory input, and extreme distress in those identified as patients. First responders are at increased risk for a range of adverse mental health effects, such as PTSD (Morganstein et al. 2016). Several studies have examined the impact of disasters on the psychological well-being of medical students. Distress reactions, such as sleep difficulties and decreased perceptions of safety, are common, as well as psychological symptoms, such as anxiety and depression. Following the Christchurch earthquake in New Zealand in 2011, approximately 10% of medical students experienced moderate to severe distress 7 months later (Carter et al. 2014).

In the immediate aftermath of a disaster, physicians may find their home or workplace damaged or destroyed, and still be required to manage competing demands of tending to patients or helping their own families. Vignette 1 captures the experience of a physician balancing the call to care for sick and injured and the need to tend to his own family’s needs.
During disaster response and recovery, healthcare demand is much greater than available resources, and healthcare providers find themselves in the position of triaging patients and rationing care. Physicians involved in or witnessing emergency or disaster situations commonly feel a sense of obligation to help those in need. Physicians in training, such as medical students, may doubt their competency. Those who lack adequate training, such as Basic Life Support, may have doubt or anxiety about stepping forward to participate in these events. Feelings of guilt may result from a physician or trainee’s inadequate response or lack of response in the aftermath of a disaster. This can include withholding care due to excessive demand or inadequate resources to offer intervention that they would otherwise offer under normal circumstances. Disasters differentially impact children and other vulnerable populations, and thereby expose healthcare workers to a greater number of serious injuries or deaths in children. For those required to provide care, the range of responses may be similar to those experienced by other first responders. A lack of education and training as well as psychological preparation for these extreme events can exacerbate negative effects and impair functioning.

Vignette 1
Eventually the generators did fail or run out of gas. Doctors and nurses had to use flashlights to walk down corridors that became instantly engulfed by obscurity and darkness. Basic rounds were made in the dim light that penetrated from the outside windows. Critically ill patients were ventilated manually, and a stifling heat mounted in the hospital corridors and rooms. It became extremely urgent to find a way out of this dead-end situation; how many people needed evacuation? From a quick count, approximately 1200, including a total of 160 patients, employees, and physicians and their families.

Meanwhile, one of the fellows trapped at the Veterans Affairs hospital had to make a difficult choice. With water chest-deep and rising, he began to seriously worry about his wife, who was 7 months pregnant and had spent the past 72 h in the hospital with him. He decided to leave and wade the waters, challenging the conditions of the streets and the violence outside of the hospital. He walked in waist- to chest-deep water with his wife and carrying his dog until he reached dry ground about 2 miles away. From there, he walked 5 more miles to his apartment uptown. On arrival, his heart sank: his vehicle was smashed under a large tree and was unusable. In the haste of the moment, he let himself through the broken window of a neighbor’s house. He looked around and found a spare key to his neighbor’s truck parked outside, took it, and drove himself and his wife to safety in a nearby state (Raggi and Raggi 2005).

2.2.5 Hazardous Exposures

Exposure to environmental hazards represents another significant type of traumatic event. These include chemical, radiological, and infectious exposures in the course of routine medical care and disaster response. Exposure to occupational hazards
appears to lead to increased somatic symptoms (Somville et al. 2016). Physicians may be most threatened by infectious diseases they are called on to treat. Codes of medical ethics have historically recognized this risk, “When pestilence prevails, it is [the physicians’] duty to face the danger, and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives” (AMA Code of Medical Ethics 1847). Some contemporary infectious diseases generate significant anxiety in physicians due to their virulence and devastating implications of infection. Diseases such as HIV have the potential to generate significant traumatic stress in treating physicians, particularly those that find themselves exposed. Highly transmissible and deadly agents such as Ebola, Marburg, and SARS are not only lethal to those infected, they also represent a threat to healthcare workers. In the Ebola outbreak of 2014–2015, 3% of more than 27,000 cases and 5% of more than 11,000 deaths were healthcare workers (Mulligan and Siebert 2015). Even though these numbers were highly concentrated in African countries, Europe and the United States also experienced cases of transmission to healthcare workers. Vignette 2 captures the experience of nurses exposed to an infectious Ebola patient in 2014. Influenza is another pathogen that poses risk to healthcare workers with the potential for generating psychological trauma. In one study of healthcare workers exposed to H1N1 influenza during the 2009 epidemic, up to 1 in 3 emergency room workers became infected with the virus (Sandoval et al. 2016). Physicians and other personnel may respond to this perceived threat by calling in sick or overtly refusing to attend work, further diminishing an already overstressed healthcare workforce during a time of increased care demands.

Vignette 2
(from Statement by RN’s at Texas Health Presbyterian Hospital as provided to National Nurses United 2014)

“When Thomas Eric Duncan first came into the hospital, he arrived with an elevated temperature, but was sent home. On his return visit to the hospital, he was brought in by ambulance under the suspicion from him and family members that he may have Ebola. Mr. Duncan was left for several hours, not in isolation, in an area where other patients were present. No one knew what the protocols were or were able to verify what kind of personal protective equipment should be worn and there was no training. Subsequently a nurse supervisor arrived and demanded that he be moved to an isolation unit—yet faced resistance from other hospital authorities. Lab specimens from Mr. Duncan were sent through the hospital tube system without being specially sealed and hand delivered. The result is that the entire tube system by which all lab specimens are sent was potentially contaminated.”

“There was no advance preparedness on what to do with the patient, there was no protocol, there was no system. The nurses were asked to call the Infectious Disease Department. The Infectious Disease Department did not have clear policies to provide either. Initial nurses who interacted with Mr. Duncan wore a non-impermeable gown front and back, three pairs of gloves, with no taping around wrists, surgical masks, with the option of N-95s, and face shields. Some supervisors said that even the N-95 masks were not necessary. The suits they were given still
exposed their necks, the part closest to their face and mouth. They had suits with booties and hoods, three pairs of gloves, no tape. For their necks, nurses had to use medical tape, that is not impermeable and has permeable seams, to wrap around their necks in order to protect themselves, and had to put on the tape and take it off on their own.”

“Nurses had to interact with Mr. Duncan with whatever protective equipment was available, at a time when he had copious amounts of diarrhea and vomiting which produces a lot of contagious fluids (United 2014).”

2.2.6 Workplace Violence

Healthcare workers are at a relatively higher risk of workplace injury compared to other occupations. United States hospitals and nursing care facilities have higher than average rates of nonfatal workplace injuries (BLS 2016). Physicians throughout the international healthcare community also experience workplace violence. A variety of social, cultural, and economic changes in the delivery of healthcare parallel increased rates of violence toward physicians (Shi et al. 2015; WHO 2002). Among Pakistani physicians surveyed about their experiences over the past 12 months, one in six reported a physical attack and 60% reported verbal abuse. Among those, 40% screened positive for anxiety and depression on the Global Health Questionnaire-12 and one in six were positive for PTSD using the PTSD Checklist-Civilian, with physical attacks being the most significant predictor of PTSD (Zafar et al. 2016). Studies looking at workplace violence to date have been directed toward quantifying the problem and less directed to understanding the sources and underlying risks (Phillips 2016). Table 2.2 summarizes a useful differentiation of types of workplace violence according to the relationships between the perpetrator, the workplace, and the victim. Violence in the workplace occurs along a spectrum from verbal harassment to direct threats of violence, threatening with a weapon, physical assault, and homicide.

Verbal violence is by far the most common form of workplace violence in healthcare settings. Verbal violence can range from insulting or demeaning remarks directed toward a healthcare worker to direct threats of physical violence. Physical violence occurs along a spectrum ranging from unwanted contact or striking by

| Type | Description | Example |
|------|-------------|---------|
| I    | Perpetrator has no association with the workplace or employees | Person with criminal intent commits a robbery |
| II   | Perpetrator is a customer or patient of the workplace or employees | Intoxicated patient punches a nurse’s aide |
| III  | Perpetrator is a current or former employee of the workplace | Recently fired employee assaults former supervisor |
| IV   | Perpetrator has a personal relationship with employees, none with the workplace | Ex-husband assaults ex-wife at her place of work |
patients to physically injurious assault to homicide. Psychiatry specialists and emergency medicine physicians are most likely to be victims of workplace violence. A sample of emergency room workers in 2007 showed that nurses, physicians, and support personnel were threatened with violence three times per year and physically assaulted once per year (Kowalenko et al. 2013). In a 2011 study of U.S. emergency medicine residents and staff, 78% of emergency physicians reported some type of workplace violence in the last year. Of these events, 75% involved verbal threats, and 21% involved physical assault by a patient (Behnam et al. 2011). Commonly cited causes of violence in healthcare settings include delays in consultations and/or care, intoxication, and psychiatric disorders (Belayachi et al. 2010). Though patient-initiated violence is the most often researched in emergency settings, some literature suggests rates of violence by patients’ relatives may be even higher (Ayranci 2005).

Nurses and other health professions are even more susceptible. In 2013, the United States Occupational Safety and Health Administration (OSHA) recorded over 7000 violent injuries that resulted in days away from work for nursing aides and assistants, and almost 2000 violent injuries to registered nurses (OSHA 2015). In a survey of inpatient psychiatric nurses between 2011 and 2013 staff identified 3867 injurious assaults by patients against hospital staff, with a rate of 0.55 assaults per 1000 patient-days (Staggs 2015). Physicians at all levels of training are potentially exposed to workplace assaults. In a comparison of medical students and social work students, medical students experienced higher levels of workplace violence while social work students received more education on methods to manage agitated patients (Ellwood and Rey 1996).

In addition to distress and psychological disorders, workplace violence is associated with increased rates of burnout, as well as reduced quality of life and job satisfaction (Heponiemi et al. 2014). The experience of workplace violence leads physicians to consider means of enhancing personal safety, such as procuring firearms, knives, or other weapons (Kowalenko et al. 2005). Consequently, preventing workplace violence and enhancing perceptions of safety for physicians and other medical personnel represent important areas of public health safety and prevention for healthcare organizations.

### 2.2.7 Mass Violence

Mass violence is a highly traumatic event for the public and physicians involved. Acts of mass violence such as mass shootings, terrorist bombings, or other large scale attacks incorporate multiple characteristics that amplify their psychological impact. First, they are intentional acts which have a greater traumatic impact compared to natural or random events. Second, multiple victims will increase the number of individual traumatic events. Finally, victims tend to be innocent bystanders and therefore perceived by responders with greater identification and horror. Emergency physicians, trauma surgeons, and orthopedic surgeons describe caring for mass shooting victims as “just like any normal day at a trauma center, but amplified” and often struggle with compartmentalized emotions for years (Castellucci 2016). Recent mass shootings both in and out of healthcare settings have captured
public attention and generated significant anxiety and fear. Between 1980 and 1990, there were 78 workplace homicides by firearm, and 19 of these were physicians (Goodman et al. 1994). Kelen and colleagues reviewed media reporting of hospital shooting events between 2000 and 2011 and identified 154 hospital-related shootings, of which 91 occurred inside the hospital. Motives for shooting varied, including grudge (27%), suicide (21%), and euthanizing an ill relative (14%). In 45% of hospital shootings, the victim was the perpetrator, either self-inflicted or shot by security response (Kelen et al. 2012).

2.2.8 Factors Amplifying and Mitigating Risk

In considering the impact of traumatic events on individuals and groups, it is important to consider characteristics of exposed individuals that may leave them more vulnerable to lasting reactions or conversely more resilient. Individuals most directly exposed are at greatest risk for psychiatric disorders after the trauma. In the disaster literature, the directly exposed group usually includes individuals most proximal to the disaster (North et al. 2002), those who experienced physical danger, and those who directly witnessed traumatic events. In addition, individuals who have attachments with primary victims, first responders, and support providers are at greater risk (Wright and Bartone 1994) than “detached” bystanders. It is reasonable to extrapolate this to all traumatic events experienced by physicians, meaning that those closest to the scene and those with more emotional attachment to victims are more likely to experience traumatic stress reactions. Those who are injured during a traumatic event will typically experience more symptoms of traumatic stress. Gender plays a role, with men more likely to experience traumatic events, but women more likely to develop PTSD (Breslau et al. 1999).

Traumatic exposure within the healthcare workplace occurs against a background of exposure outside the workplace. History of developmental trauma and abuse is a known risk factor for traumatic stress reactions in the future. Physician exposure to interpersonal violence outside of the workplace has proven difficult to quantify. In a 2012 survey of the Massachusetts Academy of Family Physicians one-third of practicing family physicians reported experiencing or witnessing abuse during their development (Candib et al. 2012). A comprehensive review of interpersonal violence and physicians showed that female physicians report a higher incidence, are victims of interpersonal violence, and that shame over being a victim may reduce reporting below that of the general population. However, physicians who were themselves victims may be more likely to identify and report violence toward their patients (Hernandez et al. 2016).

2.3 Developmental Issues

Physicians’ professional stage of development impacts their experience of psychological trauma. Medical students have little authority or responsibility and may experience additional distress due to mistreatment from both fellow professionals
and patients. Residents ("house officers") have increased responsibility and accountability, but with limited authority, for patient care and potential adverse outcomes. Staff physicians bear the ultimate responsibility for patient outcomes and have the greatest exposure to adverse patient interactions. Understanding the unique vulnerabilities for physicians at various developmental stages offers the opportunity to enhance prevention efforts designed to minimize exposure to traumatic stress.

### 2.3.1 Medical Students

Imbalances of power and control play a significant role in the experience of traumatic stress for medical students. This power differential leaves students vulnerable to mistreatment. Student mistreatment occurs along a spectrum from public humiliation to physical or sexual assault. In this regard, it is very similar to forms of interpersonal violence. Though advocacy for medical student well-being has increased in recent years, mistreatment or "hazing" of students often goes unreported, making true estimates of its frequency extremely difficult. The American Association of Medical Colleges reports the rate of student mistreatment around 17% (AAMC 2011). However, other studies of medical students in the USA and other countries have found reported rates to be much higher (Frank et al. 2006; Rautio et al. 2005). A recent study found that 64 and 76% of medical students reported at least one incident of mistreatment by faculty and residents, respectively (Cook et al. 2014).

Student mistreatment is extremely stressful for victims and confers increased risk for poor health outcomes and psychological symptoms. In a study of medical students during their clinical year at Brown University, Heru and colleagues observed that most students reported experiencing mistreatment or observing another student being mistreated (Heru et al. 2009). They also found more than half the students experiencing mistreatment reported Impact of Events Scale-Revised scores that exceeded the threshold for posttraumatic stress disorder. Students who are abused indicate these experiences have a significant effect on their specialty selection and career trajectory (Haviland et al. 2011).

Students may also experience elements of medical education curricula as traumatic events. As mentioned previously, gross anatomy teaching requires exposure to and dissection of deceased human remains. It is traditionally viewed as a right-of-passage and a milestone by which preclinical students begin the process of transitioning from layperson to physician by crossing the boundary of the human body. The dissection experience produces distress in about half of medical students (Sandor et al. 2015). Fear of stigmatization and being perceived as unfit to serve as a physician prevent many students from talking about these reactions. During the dissection experience, identification with human remains (i.e., “this could be my grandmother”) increases distress. Seeing the hands and face of the cadaver increases this effect. Exposing students to the least distressing body parts first and teaching students cognitive coping strategies may reduce adverse effects. Normalizing a range of emotional and physiologic reactions during dissection and encouraging
open discussion of these reduces stigma and barriers to help seeking and promotes healthy peer interactions that become useful later in their medical careers.

Simulation training has rapidly proliferated in medical education in the twenty-first century, is generally well-received by students, and offers new and innovative methods of teaching (Takayesu et al. 2006). High stress simulation, such as those involving severe trauma or death to patients, has been found to be extremely stressful for students and may result in significant and lasting distress (Pai et al. 2014). Monitoring of student well-being in the development of simulation activities and follow-up assessment or debriefing in the post-simulation time period can allow educators to identify and provide interventions for students experiencing traumatic stress.

2.3.2 Residents (“House Officers” or Junior Doctors [UK])

Residency serves as a significant and extended period of professional transition with numerous stressors, adversity and traumatic events. Becoming a resident or “house officer” removes a physician trainee from the protection of medical student status, imposing increased responsibility and accountability with limited authority and autonomy. In contrast to medical students, residents typically have increased exposure to patients and physician staff as well as a greater degree of physiologic deprivation through erratic food intake and reduced sleep. Increased interaction with staff and patients exposes residents to mistreatment, bullying, workplace violence, and medical errors and complications.

House officers work extremely long hours conducting patient care, often leaving little time for social interactions outside the work environment. Existing relationships may be severely strained during this 3–5-year period of training. Opportunities are limited to broaden a support network outside of the socialization that occurs in the setting of medical training. Consequently, residents’ social networks are largely predetermined, composed primarily of other house officers exposed to the same stressors and deprivation. Because social support is critical to reducing the impact of distressing experiences, residents may be particularly vulnerable to the adverse effects of traumatic events encountered during training.

The adverse effects of stress on residents may be reduced by early training on understanding and coping with occupational hazards, decreasing exposure to stressful events, adequately addressing physiologic needs, and enhancing social support systems.

2.3.3 Early and Late Career Physicians

Following training, physicians may be exposed to a wide range of traumatic events throughout the cycle of their careers. The status of being an attending physician brings unique developmental issues that can impact both the experience of traumatic stressors and the ways in which physicians choose to respond to these events.
Following training, early career physicians are given authority, responsibility, and accountability for patient care. This can be experienced as a positive transition, affording increased levels of esteem and financial compensation. It may also represent a loss of certain protective factors afforded to those in a training environment. Early-career, post-residency physicians may feel significant stress bearing the full responsibility for patient care, including medical errors or adverse outcomes. A lack of adequate preparation for this new role may amplify feelings of uncertainty or distress. Following specialty training, physicians may also feel ill-prepared to manage the challenges inherent in their healthcare system. Uncertainty about policies and procedures, where to obtain needed resources, and the hectic schedule of a junior physician can leave these individuals increasingly vulnerable to the adverse effects of work trauma.

Late-career physicians may be vulnerable to burnout after years of managing the demands of both patient care and a constantly evolving healthcare system (see also Chap. 1). Specialties that involve patient care in high volumes or extreme intensity may be particularly vulnerable, such as primary care, mental health, emergency, and trauma specialties. Following years of practice, physicians may become cynical about patient care as well as the healthcare systems in which they work. Feelings of helplessness and hopelessness about the ability to effect change diminish motivation and a sense of well-being. Frustration or anger may also leave physicians more vulnerable to the stress inherent in routine patient care as well as higher stress challenges that inevitably emerge. Finding meaning in work, collaborative approaches to patient care, and developing skills to navigate administrative challenges within a healthcare system serve as protective factors.

### 2.4 Assessment, Intervention, and Treatment

Thorough assessment and prompt, evidence-based intervention following traumatic events aid physician recovery and optimize performance. Important considerations include prevention measures, barriers to care, and the role of leadership. Assessment should examine a broad range of behavioral and psychological reactions to traumatic events as well as level of impairment. Evidence-based treatments focus on reducing distress, enhancing well-being and optimizing social and occupational functioning.

#### 2.4.1 Prevention

Education on stress, normalizing responses to stress, when to get help, and what resources exist are at the core of effective prevention of psychological impairment following traumatic events. Ensuring “adequate equipment” and “protection” helps people feel safe going to work and doing their job. Firefighters check their protective equipment not just to make sure it works, but to increase their sense of personal safety when stressful events occur. Physicians’ benefit from ensuring similar
protections are in place through training and procedures to reduce perceptions of risk and increase feelings of safety. This allows them to spend less physical and mental energy concerned with personal well-being and more on the well-being of patients. This is just as true for first responders as for physicians charged with caring for others who may be harmed themselves.

Prevention of trauma reduces morbidity for affected physicians and may limit adverse effects on patient care. Prevention involves recognizing high-risk characteristics of traumatic events, identifying at-risk physicians and system vulnerabilities, and taking mitigation steps that promote individual and organizational resilience (see Table 2.3 and Chap. 11). Historical public health interventions are a useful paradigm to consider for efforts to prevent work-associated trauma in physicians. For instance, the advent of seat belts dramatically reduced the rate of injury in automobile accidents, thereby decreasing distress reactions, health risk behavior, and psychiatric disorders associated with them. Examination of human and system factors as well as specific vulnerabilities in healthcare settings and physician training programs can elucidate areas to target for intervention (see also Chap. 13).

Anticipatory training is an important aspect of enhancing the resilience of physicians to work-associated trauma. Individuals are most likely to fear things they do not understand and feel unprepared to manage. Providing physicians with an understanding of traumatic events, normal and expected behavioral and psychological reactions, methods of self-help and peer assistance, and access to expert resources

| Cause                        | At-risk                                      | System vulnerability                                      | Mitigation                                                                 |
|------------------------------|----------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| **Workplace violence**       | Emergency department and primary care, and mental health providers | Lack of security guards or other physical security measures; inadequate training on management of agitation | Enhance security measures; train on patient communication and de-escalation techniques |
| **Bullying**                 | Medical students and house officers, vulnerable populations | Tolerant organizational culture; lack of knowledge regarding policies and procedures | Leadership messaging about organizational values; policies and procedures on reporting and response; training on resources |
| **Medical errors and complications** | All physicians | Inadequate instruments, documentation, policy or procedure regarding management of high-risk procedures | Enhanced ergonomics; improve charting systems; review and revise policy and procedure for high-risk interventions; education and training on mitigating and responding to incidents |
| **Death and injury**         | Oncology, trauma surgery, psychiatry          | Lack of awareness of potential vicarious impact; limited emphasis on self-care techniques | Anticipatory training of potential exposures; education on self-care and when to get help; adequate resources to support personnel |

Table 2.3 Sample work-associated trauma prevention matrix
can enhance coping and reduce distress. Ensuring physicians have the knowledge and skills they need to identify and address work-associated traumatic stress allows them to focus less on concerns about potential adverse experiences and more on optimal performance of their work duties.

Identification of system issues that put physicians at increased risk of exposure to traumatic events is an important aspect of prevention. Enhanced safety measures can protect physicians from workplace violence. Physicians working long hours and arriving and departing the workplace at early and late hours may leave them more vulnerable to assault coming and going from work. Optimizing human factors and reducing system vulnerabilities can decrease medical errors and complications. Rigid hierarchical structures and tolerance for harassment and mistreatment may create an environment in which physicians and other healthcare workers are more vulnerable to physical and sexual assault. These and other interventions, as a part of continuous systems improvement, can lead to identification of potential vulnerabilities that expose physicians to traumatic events. Mitigation efforts through ongoing process improvement reduce adverse impact on physicians and optimize patient care.

### 2.4.2 Role of Leadership

When physicians experience work-associated trauma in a healthcare or other system, leaders play an important role in reducing harm and mitigating the impact of traumatic events. Fear of uncertainty may lead to avoidance of communication about the traumatic event. In healthy organizations, leaders reach out to communicate with physicians impacted by traumatic events. Communication marked by active listening, empathy, support, and a desire to help reduces feelings of fear and isolation. In this way, leaders can provide the initial support to physicians impacted by traumatic events, a critical element in reducing distress and promoting recovery (Brewin et al. 2000). Another key aspect of this communication is that leaders convey to their organization that distress reactions are acceptable and that the group can and will support members through their distress. Leaders must also pay attention to their own distress reactions and health risk behaviors following traumatic events. Poor sleep, over-dedication to the point of exhaustion, or withdrawal from their leadership role will have a negative effect on coping within the workplace following traumatic events. Leaders in these circumstances may feel isolated and, although they may be reluctant, should seek peer or expert consultation to assist in managing their own distress.

Leaders need to address grief and loss that arise following traumatic events. Grief leadership is the process of recognizing and giving voice to what has been lost following traumatic events, providing a sense of hopefulness about recovery, and a positive outlook on the future. Effective grief leadership helps a physician begin the process of making meaning of the event they have experienced. A sense of hopefulness about the future conveys that a leader understands there may be adverse effects following a traumatic event and that the physician is part of an organization that desires to support them through the process of recovery.
2.4.3 Assessment

Following traumatic events many physicians will manage distress without intervention or seeking peer support. However, physicians experiencing significant or impairing distress need timely assessment by personnel trained to understand the unique effects and comorbidity associated with traumatic stress. Employee Assistance Program (EAP) personnel serve this role in many institutions. Some organizations utilize in-house or contracted medical providers who are able to conduct formal evaluations when traumatic stress is the presenting concern. The effectiveness of EAP counselors and therapists in providing assessment is largely dependent upon their training, comfort, and being adequately resourced. Individuals who lack adequate training can exacerbate the experience of trauma rather than alleviate it. When assessment personnel are inadequately resourced, they may become overburdened and unable to provide the time, energy, and continuity of support to assist the physician in need.

Assessment should consider not simply the presenting concern or specific traumatic event, but the physician’s entire “network of stressors” (see Table 2.4). Thus, familiarity with the professional culture of physicians and their workplace environment, in addition to stressors not specific to physicians, is essential. Any additional stressor can exacerbate the primary traumatic event, adding to a physician’s burden of distress. Individuals will predominantly manifest distress reactions, health risk behaviors, and less frequently psychiatric disorders (see Fig. 2.1). A focus exclusively on making a psychiatric diagnosis will often overlook a range of psychological and behavioral responses contributing to significant distress and functional impairment. Assessment can include a clinical interview as well as the use of standardized scales for trauma and comorbid illnesses (i.e., PTSD Checklist -Civilian Version, PHQ9 for depression, and AUDIT-C for alcohol consumption). Another consideration when assessing physicians following traumatic events should be a clear understanding of the intensity and duration of the physician’s exposure to

| Table 2.4  | Network of stressors to be considered during evaluation |
|------------|---------------------------------------------------------|
|            | Medical and mental health conditions (chronic pain, depression, anxiety, grief) |
|            | Substance use and misuse (alcohol, prescription medication, other controlled substances) |
|            | Problems with supervisor or coworkers (harassment, bullying, poor communication) |
|            | Patient-related difficulties (medical error, bad outcome, lawsuits) |
|            | Inability to get work done (inadequate resources, overworked, burnout) |
|            | Family challenges (divorce, separation, custody, conflicts, illness, and death) |
|            | Other social difficulties (legal, financial, neighborhood, lack of support) |
traumatic events. Knowing such details as the number of injuries treated, time spent stabilizing patients, and the nature of their injuries can provide clues as to the likelihood of a distress response down the road even if the physician reports no acute distress. Remember, the likelihood of a distress response following traumatic events is dependent on the frequency and intensity of exposure.

Evaluation for comorbidities associated with traumatic stress may reveal additional symptoms or disorders, which complicate treatment planning. Symptoms of depression, anxiety, and substance use should be elucidated and considered in the process of developing interventions. Somatic complaints may also be common, such as headache, indigestion, dizziness, or palpitations, among other symptoms. These are easily overlooked, particularly by those performing evaluations who lack medical training. When physical symptoms predominate, repeated illness or missed work days may occur. In these instances, the supervisor should offer support and talk directly with a physician about their well-being and the experience of their traumatic event. Ensuring that physicians are aware of helping resources and encouraging them to utilize these before impairment worsens can be a helpful intervention.

The level of disability or impairment should also be considered. Though many physicians who experience a traumatic event may appear to function effectively, assessment should involve determination of occupational impairment which may adversely affect the physician’s ability to provide medical care. Care should be taken to reduce the degree to which the assessment of disability serves as a stigmatizing event and barrier to effective care for the physician.

2.4.4 Treatment

Treatment for physician work trauma includes early interventions to address distress reactions and health risk behaviors in which the primary goals are to reduce adverse effects, preserve functioning, and decrease progression to psychiatric disease. When psychiatric disorders occur, evidence-based psychotherapy and pharmacotherapy may help reduce symptoms and functional impairment. Complementary and alternative interventions have an increasing body of knowledge supporting their use in the treatment of traumatic stress. A range of behavioral self-help interventions that are patient-centered and provider supported may be used throughout. Many physicians will prefer peer support over formal intervention. A comprehensive treatment plan involves the use of interventions which address the unique circumstances of the trauma in the context of the physician’s preferences (see Table 2.5).

2.4.4.1 Early Interventions

Early interventions found to be effective in the treatment of mass trauma include promoting safety, enhancing calming, increasing self- and community-efficacy, encouraging social connectedness, and engendering a sense of hope or optimism. Collectively, these have been termed Psychological First Aid (PFA). PFA serves as a framework for interventions designed to support the well-being of individuals and communities in the aftermath of traumatic events. Though PFA has not been
well studied in response to physician work trauma specifically, these principles have strong expert consensus as the most effective interventions following psychological trauma (Hobfoll et al. 2007). The utility of PFA principles can reasonably be extrapolated to the physician population and serve as an important evidence-based guide to developing appropriate interventions. There are five essential elements to PFA. (1) Promoting safety is established by removing individuals from immediately traumatic experiences and protecting them from secondary traumatization. (2) Calming involves reducing arousal symptoms through relaxation techniques as well as providing information about assessment and management of the traumatic experience. (3) Self-efficacy enables traumatized physicians to identify ways they can mitigate stress reactions and take a proactive role in their recovery from trauma. (4) Connectedness reinforces existing social support networks and helps the physician build additional systems of support (colleagues, supervisors, others outside the work environment) where appropriate. (5) Hope and optimism remind the physician that reactions and symptoms are a normal response which is expected to diminish over time and, when needed, additional resources will be made available.

The additional treatment modalities listed subsequently in the “Assessment” section serve the purpose of addressing one or more of the five essential elements of PFA. Those delivering care to physicians who have experienced a traumatic event should consider the degree to which any additional interventions effectively fit within the framework of PFA principles.

### 2.4.4.2 Self-Help and Peer Support

Well-established self-help behavioral interventions for managing distress reactions include diaphragmatic breathing, progressive muscle relaxation, and guided visual

| Table 2.5 | Interventions for work-associated traumatic stress |
|-----------|---------------------------------------------------|
| Psychological first aid (safety, calming, efficacy, connectedness, hope/optimism) |
| Self-help interventions |
| Peer support |
| Trauma-focused psychotherapies (CPT, PE, SIT, EMDR) |
| Pharmacotherapy (focus on regulating sleep and promoting calming; short-term use) |
| Complementary and alternative interventions (yoga, meditation, mindfulness) |
| Behavioral interventions (diaphragmatic breathing, muscle relaxation, imagery) |

*CPT* Cognitive processing therapy, *PE* Prolonged exposure therapy, *SIT* Stress inoculation training, *EMDR* Eye movement desensitization and reprocessing
imagery. These can be taught by a healthcare provider or learned through online or other resources by the physician who requires treatment for trauma. These interventions facilitate the essential element of calming and reducing physiologic arousal. Their benefits include being easily accessible, having little or no side effects, and increasing patient self-efficacy. Another benefit of self-help interventions is that distressed physicians can utilize these resources without risking stigmatization through seeking formal care. These interventions can be used in conjunction with psychotherapy, pharmacotherapy, or complementary and alternative treatments.

As mentioned previously, most physicians will be reluctant to seek formal intervention even if they are experiencing significant distress reactions following traumatic events (Hu et al. 2012). Peer support is another common intervention that has significant utility for physicians experiencing distress reactions. Elements of formal peer support programs include preparing clinician peer supporters through a structured training program, matching appropriate peers (e.g., a surgeon helping another surgeon in distress), and ensuring confidentiality of communications (Shapiro and Galowitz 2016).

2.4.4.3 Psychotherapy
For physicians that go on to develop trauma-related disorders following a traumatic event, trauma-focused psychotherapies, such as Cognitive Processing Therapy and Prolonged Exposure Therapy, have the strongest evidence of benefit. Other therapeutic interventions, such as Stress Inoculation Training and Eye Movement Desensitization and Reprocessing have also been found to be helpful in reducing symptoms of trauma. Trauma-focused psychotherapies incorporate imaginal exposure to the traumatic event in conjunction with an examination of cognitions the physician may have about aspects of the event and their meaning. Negative thoughts such as “It’s all my fault,” “If only I hadn’t said something then this wouldn’t have happened,” and other distorted cognitions are examined in collaboration between the physician and their treating provider. Subsequently, alternative and more balanced thoughts are considered and eventually used to replace the distressing negative thoughts. Trauma-focused psychotherapies also incorporate real-world behavioral interventions to assist patients in overcoming avoidant behaviors. These psychotherapies reduce the full range of symptoms associated with disorders such as PTSD. They have also been found to be effective in reducing the frequency and severity of early symptoms if delivered shortly after the trauma and prior to the development of a formal psychiatric disorder.

2.4.4.4 Pharmacotherapy
Pharmacotherapy following a traumatic event should generally be time-limited and symptom focused. Insomnia is a nearly universal symptom following a traumatic event. Because regulating sleep is critical to reducing arousal symptoms (and promoting the “calming” element of PFA), short-term sedative-hypnotic medication may be used to relieve insomnia. Eszopiclone (Lunesta) and Zolpidem (Ambien), both of which enhance GABA activity, are commonly prescribed for initiation insomnia. Prazosin (Minipress), an alpha-adrenergic blocker has demonstrated
efficacy in treating insomnia associated with posttraumatic symptoms as well as reducing the frequency and severity of associated nightmares and may be used at doses up to 15 mg nightly. Physicians with comorbid depression may benefit from the sedating histamine properties of trazodone (Oleptro), originally developed as a serotonin reuptake inhibitor (SSRI) for the treatment of depression. Medication for sleep should be provided in conjunction with additional interventions to promote sleep hygiene and address the range of PFA principles. As with all interventions medication should be tailored to patient preference.

For those physicians who develop trauma-related disorders following a traumatic event, evidence-based pharmacotherapy includes SSRIs and serotonin-norepinephrine reuptake inhibitor (SNRIs) as first-line therapy. Mirtazapine (Remeron) also shows evidence of efficacy in treatment of PTSD as does prazosin for treatment of PTSD-associated nightmares. Benzodiazepines have primarily negative evidence and are generally contraindicated.

2.4.4.5 Complementary and Alternative Interventions

Complementary and alternative approaches to the treatment of trauma stress have an increasing body of research supporting their efficacy, and preliminary studies as well as anecdotal evidence of benefit are promising (Wynn 2015). These interventions are increasingly sought out by patients as alternatives to traditional biological interventions. Patients commonly report a desire for options that enhance self-efficacy and reduce the incidence of side effects as a rationale for using these modalities. Mindfulness practices have the most robust research base to support their efficacy. Mindfulness is the practice of purposefully focusing on what is happening in the present moment without passing judgment. It requires one to attend to thoughts, feelings, or sensations without resisting or trying to change them. This practice has generated increasing attention in the field of healthcare as an intervention to reduce the stress and anxiety linked to a variety of adverse health outcomes. Animal-assisted therapy has become increasingly popular in the management of a range of psychiatric symptoms, including those associated with traumatic stress as well as anxiety and other disorders. Animals may assist individuals who would otherwise be reluctant to engage in social activities following a traumatic event; thus, enhancing the critical treatment intervention of social support. Yoga, meditation, and acupuncture are additional alternatives that should be considered. Patient preference is an important determinant in considering whether to offer interventions currently considered complementary and alternative.

2.4.4.6 Barriers to Care

Barriers exist for physicians seeking care for traumatic stress. In spite of increased awareness and understanding of mental health, stigma continues to serve as a barrier to help-seeking for physicians (Hu et al. 2012). Stigma may be an internal phenomenon in which a physician’s negative perception of help-seeking may lead them to avoid seeking care. Healthcare institutions can also foster a professional culture which stigmatizes the use of help-seeking resources. Subtle or overt messages from colleagues, supervisors, and the broader healthcare organization may signal judgment,
mistrust, and a lack of confidence or professional esteem directed at those who use mental health or other help-seeking resources. Additional barriers include inadequate knowledge about available resources as well as lack of confidence in the efficacy of these resources. Concerns about confidentiality and adverse career impact are also commonly cited by physicians as reasons for which they avoid using helping resources.

The requirements to monitor and restrict the practice of physicians who are found to be impaired may serve as a significant barrier to help-seeking behaviors. Physician training culminates in a status of being an attending or staff provider, marked by independence and autonomy. Physicians are typically vigilant to the requirement for oversight and potential work limitations that accompany “impaired provider” status and being placed in provider wellness programs. Fearing a loss of status and professional esteem can serve as a barrier to care. Healthcare systems can encourage provider self-identification by minimizing or eliminating measures that will be experienced as punitive, including being publicly identified, confidentiality violations, and loss of pay.

### 2.5 Key Points

- Physician work-associated traumatic events are both common and unavoidable.
- In considering responses to traumatic events, it is important to maintain the distinction between the events and responses to them.
- Traumatic events include those experienced by non-physicians such as natural disasters and mass violence as well as unique experiences such as exposure to death and dying and the expectation of providing care during infectious disease outbreaks.
- The full complement of traumatic events, stressors, and adversities reviewed in this chapter identify potential times for intervention by healthcare organizations and training institutions.
- Common responses to traumatic events include distress reactions, health risk behaviors, and psychiatric disorders.
- Awareness of these predictable responses as well as unique developmental vulnerabilities can guide appropriate interventions.
- The goals of intervention are to reduce levels of distress in affected physicians, restore their ability to provide care, and minimize the likelihood of lasting symptoms or impairment.
- System-based efforts should identify and mitigate vulnerabilities to reduce the likelihood of traumatic events, educate physicians on expectable responses, and open the door for self-help, peer support, and formal assessment and treatment.
- Interventions for traumatic stress should incorporate the five principles of Psychological First Aid: safety, calming, self-efficacy, connectedness, and optimism.
- Providing a range of patient-centered, evidence-based interventions and formal treatment options can enhance compliance and increase well-being for physicians who have experienced traumatic events.
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