

Work-Related Trauma, PTSD, and Workers Compensation Legislation: Implications for Practice and Policy

Edward A. Wise

Mental Health Resources, Memphis, Tennessee

J. Gayle Beck

University of Memphis

The current review examines work-related traumatic events, with particular focus on posttraumatic stress disorder (PTSD) as a potential mental health outcome. Despite considerable empirical knowledge about trauma and PTSD, a gap exists with respect to laws undergirding Workers Compensation (WC) insurance coverage for work-related mental health injuries. In this article, state and federal WC statutes are examined with an eye toward coverage of PTSD following work-related trauma. Examples of differences between states, as well as state-specific idiosyncratic facets of WC laws, are discussed. Federal WC programs are also examined. Two policy issues are highlighted: (a) lack of parity between WC coverage for work-related physical versus mental health injuries and (b) lack of reliance on psychological science in scripting legislation and determining WC benefits. The cost of untreated PTSD following work-related trauma is examined, focusing on costs to the individual, the employer, and society at large. The authors provide 3 recommendations designed to address discrepancies related to compensable psychological injuries following work-related trauma exposure.

Keywords: Workers Compensation, mental injury, PTSD, mental health parity, independent medical examination

Supplemental materials: <http://dx.doi.org/10.1037/tra0000039.supp>

Posttraumatic stress disorder (PTSD) was introduced into the formal diagnostic lexicon in 1980 (American Psychiatric Association, 1980). Official recognition of the disorder sparked intense interest and study, which allowed substantial progress in the effective assessment and treatment of PTSD in a variety of populations (see Beck & Sloan, 2012). The current review will examine work-related traumatic events, with particular focus on PTSD as a potential mental health sequel. Despite a considerable knowledge base about trauma and PTSD, a gap exists with respect to laws undergirding insurance coverage for work-related mental health injuries. These discrepancies have significant implications for policy and patient care, which we will explore in this review.

PTSD and Comorbid Disorders Following Work-related Trauma

Literature reviews indicate that PTSD is one of most frequent mental health problems related to work disability (e.g., Pitman & Sparr, 1998). Although exact prevalence figures are difficult to

ascertain, the Bureau of Labor and Statistics (2010) reported that occupational injuries involving anxiety, stress, and neurotic disorders occurred at a rate of approximately 0.3% in the private sector in 2010. In an effort to determine the prevalence of PTSD following work-related trauma exposure, it is useful to turn to empirical reviews that have focused on specific categories of workers. For example, McFarlane, Williamson, and Barton (2009) reviewed the literature on first responders and reported that of those individuals who met the criteria for exposure to a traumatic event, according to *DSM-IV-TR* (American Psychiatric Association, 2000), 6% to 32% developed PTSD. In their review, Galea, Nandi and Vlahov (2005) indicated that among first responders to human-made or technological disasters, PTSD prevalence rates ranged from 5% to 40%, whereas first responders to natural disasters had prevalence rates around 50% after 2 years. In 2011, Neria, DiGrande, and Adams reviewed the literature on firefighters and indicated that rates of PTSD tended to increase with greater elapsed time since trauma exposure, unlike other first responders. Marmar et al. (2006) reported that police officers showed duty-related PTSD rates ranging from 7% to 19%, whereas Halpern, Gurevich, Schwartz, and Brazeau (2009) reported that about 20% of ambulance workers developed PTSD. Although estimates vary across occupations, these reviews collectively indicate that first responders and other professionals who are exposed to potentially traumatic events in their work environments are four to five times more likely to develop PTSD compared to the general population (Kessler, Chiu, Demler, & Walters, 2005). Importantly, PTSD is associated with reduced occupational, social, and family functioning (see Beck & Sloan, 2012).

Edward A. Wise, Mental Health Resources, Memphis, Tennessee; J. Gayle Beck, Department of Psychology, University of Memphis.

Support for this work is provided in part by the Lillian and Morrie Moss Chair of Excellence position (Gayle Beck). We appreciate the assistance of Terence Keane, Ph.D., and Carrie Kinsella, J. D., in critiquing a draft of this article.

Correspondence concerning this article should be addressed to Edward A. Wise, Mental Health Resources, PLLC, 1037 Cresthaven Road, Memphis, TN 38119. E-mail: Wise@MHRMemphis.com

Individuals with PTSD are likely to have other psychiatric conditions. For example, in a large sample of individuals who were injured on the job, Hensel, Bender, Bacchiochi, Pelletier, and Dewa (2010) found that PTSD was the primary diagnosis in 44% ($n = 531$); among those with PTSD, 58% had one or more secondary psychiatric diagnoses, with depression being the most frequent. This report indicates that the rate of depression following a job-related physical injury is at least three to four times higher than those found in the general population. Moreover, conditions that are comorbid with PTSD also contribute to impaired functioning (e.g., Lötters, Franche, Hogg-Johnson, Burdorf, & Pole, 2006). The high rates of comorbid diagnoses among individuals with PTSD who experienced a trauma in their work environment can result in increased disability, medical costs, treatment complications, and more days of work loss than those without these diagnoses (e.g., Merikangas et al., 2007).

Thus, notable rates of PTSD and comorbid depression have been documented following work-related trauma, conditions that both are associated with considerable impairment in occupational and psychosocial functioning. These figures suggest that mental health problems following work-related trauma are common, particularly among certain professions (e.g., first responders, firefighters, police officers, emergency medical personnel). In light of the prevalence rates of PTSD, we will next examine the existing Workers Compensation (WC) insurance structure available to workers with PTSD following work-related trauma.

Work-Related Trauma and Compensation Insurance

The WC insurance system originally was designed to protect employees who had been injured on the job. Statutes pertaining to WC require employers to purchase insurance to cover injured workers. Employees are then entitled to receive benefits when they suffer an occupational disease or accidental injury in the course of employment. These benefits typically include medical and rehabilitation costs and may include cash or wage-loss benefits. In exchange, the employee relinquishes the right to sue the employer. Hence, WC coverage is a form of no-fault insurance that pays employees for injuries or illnesses that occur on the job. In 2010, WC insurance covered an estimated 124.5 million private and public sector employees and paid \$57.5 billion in benefits (Sengupta, Reno, Burton, & Baldwin, 2012). For most workers, WC benefits are regulated by state law. Some workers (e.g., maritime and overseas government contractors) are covered by federal WC laws. As a result of multiple qualifying criteria and reporting systems, reliable estimates of incidence, cost, and utilization rates of WC insurance for mental health injuries after work-related trauma are lacking (Leigh, 2011).

In an effort to examine the extent to which mental health conditions related to work-based trauma were included within the WC system, we conducted a review of current laws, at both the state and federal level. Because statutes tend to be written broadly, we examined WC coverage for mental health conditions following an employment-related injury. A “personal injury” in workers’ compensation has been defined as “any harm (including a worsened pre-existing condition) that arises in the scope of employment” (Garner, 2009, p. 857).

Method

State and Federal WC statutes were accessed and reviewed from the Department of Labor’s (DOL) website (<http://www.dol.gov/owcp/dfec/regs/compliance/wc.htm#IN>) in July, 2013. Previously published reviews of state statutes were consulted and WC laws pertaining to mental health injury were tabulated with respect to the type of mental health conditions covered (e.g., DeCarlo, 2012; Sengupta et al., 2012; Tanabe, 2012; Worker’s Compensation Research Institute, 2012). Owing to discrepancies between what was reported in recent literature reviews and statutes, differences were resolved by retrieving recent case law.

This review of WC insurance statutes relied on the typical statutory language related to physical and mental health injuries. The statutory language refers to four types of injuries: (a) physical–physical injuries—which describe a physical cause (e.g., hit by a moving vehicle) that results in a physical injury (e.g., leg amputation); (b) physical–mental injuries—which describe a physical cause (e.g., hit by a moving vehicle) that results in a mental health injury (e.g., PTSD); (c) mental–physical—which describe a mental cause (e.g., witnessing a suicide) that results in a physical injury (unremitting headaches); and (4) mental–mental—which describe a mental cause (e.g., witnessing a suicide) that results in a mental health injury (e.g., PTSD). This classification is intrinsic to WC laws and was an outgrowth of common law principles prevailing at the turn of the century when compensation was based solely on physical injuries (Merrikin, Overcast, & Sales, 1982). Over time, case law established that these four types of injuries were potentially compensable as WC claims. This classification system allows for the comparison of statutes across states, as well as a determination of how widespread WC coverage is for PTSD resulting from a work-related trauma.

Results

Review and Examples of State WC Insurance Laws

WC insurance systems in all states and the District of Columbia cover physical–physical injuries. This is the only type of coverage provided in the WC system in Montana. Sixteen state statutes cover physical–mental injuries and 19 additional states include mental–mental injuries. (The reader is referred to Table 1 in the online supplement for specific state coverage of WC injuries.) In 1982, when Merrikin et al. conducted their review, 21 states had no case law on mental–mental injuries and six additional states denied mental–mental injuries. In light of changes since 1982, the current state of affairs is a sign of some progress in WC insurance laws regarding mental health conditions resulting from work-related trauma.

When considering specific state statutes regarding the requirement of a physical injury to compensate for a resulting mental health injury (physical–mental statutes), a number of disparities are found. For example, Alabama’s physical–mental statute was tested in the case of a firefighter who was unable to revive a two and half year old child and was subsequently diagnosed with PTSD (*Cocking v. City of Montgomery*, 2010). The court held that “in the absence of a physical injury, a mental injury will not be compensable . . .” (p. 650). This case upheld Alabama’s restriction on WC benefits. A contrasting example arose in Maryland, which does not

uphold a physical-mental statute. In this case (*Means v. Baltimore County, 1997*), a paramedic who had been exposed to horrific motor vehicle accidents was diagnosed with PTSD. Her WC claim was initially denied because she was not suffering from “an occupational disease.” Upon appeal, the court reversed its decision, reasoning that Means’ PTSD diagnosis was the result of risks associated with her employment and therefore this mental health injury was compensable. Thus, despite the fact that Maryland does not uphold a physical-mental WC statute, because the Court interpreted PTSD as an occupational disease, Means was able to obtain WC benefits for PTSD. As illustrated by these two cases, disparities exist within specific states, with respect to how WC statutes are applied and interpreted between the states.

At present, 19 states allow for mental–mental claims. This is the type of statute which is most likely to be invoked in cases involving PTSD. The Sandy Hook elementary school shooting provides an interesting example. Although police officers were covered for “violent acts” and firefighters who observed a colleague killed in the line of duty could access WC-funded treatment benefits, other first responders, teachers, and staff members were not eligible for psychological injuries under the WC statute. Connecticut technically covers police officers and firefighters for mental–mental claims under highly specified conditions, yet other employees are required to have a physical injury that results in a mental health condition in order to be covered by WC insurance. This statute is an example of restricted mental–mental coverage, as illustrated by differential benefits depending on employment category.

As noted in Table 1, an additional 18 states require “extraordinary” or “unusual” circumstances to qualify for mental–mental benefits. In these statutes, the use of the terms *mental health injury*, *extreme stress*, and even *traumatic event* are not predicated on standardized, reliable definitions based on psychological research. Rather, these terms are specifically defined in statutes and by Administrative Law Judges (ALJ). For example, in Colorado a *psychologically traumatizing event* is defined as an “event that is generally outside of a worker’s usual experience and would evoke significant symptoms of distress in a worker in similar circumstances” (*Worker’s Compensation Act of Colorado, 8–41-301, 2010*). This definition is quite similar to the definition of a trauma that was incorporated within *DSM-III-R (APA, 1987)*. As noted, research on PTSD has evolved considerably since this era, owing to numerous problems reliably assessing a traumatic event based on the stressor criteria (see Beck & Sloan, 2012). Moreover, the Colorado Supreme Court held that although expert testimony is required to prove that a permanent disability was proximally caused by an employment-related injury, expert testimony was not required to prove that the injury arose from a psychologically traumatic event. In *Davison v. Industrial Claim Appeals Office (2004)*, the court stated “What is required is the presentation of sufficient facts such that the ALJ can find there existed a psychologically traumatic event or events” (p. 23). Hence, the ALJ defines the term *psychologically traumatic event* and does not rely upon expert opinion or the extensive research base in psychology which has accumulated surrounding mental health consequences of traumas (e.g., Friedman, Keane, & Resick, 2014). These discrepancies between legal standards and the available knowledge on trauma result in inconsistent and sometimes antiquated definitions of a traumatic event being relied upon as foundational in case law.

Moreover, reliance on state statutes to define what constitutes an “extraordinary” or “unusual” circumstance has also resulted in unreliable and idiosyncratic interpretations. For example, in Virginia, “a purely psychological injury must be causally related to a . . . shocking, frightening, traumatic, catastrophic and unexpected” event (*Anthony v. Fairfax County Department of Family Services, 2001*, p. 276). Legal interpretations of these conditions also vary considerably. In the case of *Smith v. County of Arlington, Va. (2011)*, a deputy sheriff discovered an unresponsive inmate who was turning blue. The sheriff performed a sternum rub until paramedics arrived. She subsequently was diagnosed with PTSD stemming from this event. Despite the “extreme stress” clause, the court denied her appeal for WC insurance benefits because the sheriff was responding to a medical emergency, an anticipated part of her employment. This type of interpretation is not unique to Virginia, as exemplified by the case of *Bentley v. Spartanburg Co. and S.C. Association of Counties SIF (2012)*, where an officer in a fatal shooting developed psychological injuries but was denied WC insurance because he was trained and expected to use deadly force. In each of these instances, state statutes relied on job duty descriptions to determine that the job related circumstances did not qualify as “extraordinary” or “unusual.”

Other states have pursued different interpretations of what constitutes “unusual stress.” The Vermont Supreme Court stated that the rationale for the “unusual stress” standard is to “permit a more objective inquiry” into the cause of the mental injury (*Crosby v. City of Burlington, 2003*, ¶13). The Court outlined three approaches to defining the term “unusual stress”:

One approach requires claimants to show that they were subjected to unusual pressures compared to other employees in the same workplace with similar responsibilities; another approach measures the pressures experienced by a claimant against those encountered by all employees doing the same job . . . and a third approach requires a showing that a claimant experience pressures of a significantly greater dimension than those generally encountered by all employees in a working environment (*Crosby v. City of Burlington, 2003* ¶14).

In *Crosby v. City of Burlington (2003)*, the Court emphasized the second standard, referred to as the “similarly situated” standard. A significant problem with this definition is found in the trauma literature. In particular, although 50–90% of the adult population will experience a traumatic event, only 4–20% will develop PTSD (Kilpatrick et al., 2013). Hence, if most people can be expected to experience a traumatic event but will not develop PTSD, individuals who legitimately develop PTSD will not be compensated by WC insurance based on the “similarly situated” standard. This legal definition also ignores the impact of cumulative trauma exposure. As noted in a meta-analysis by Ozer, Best, Lipsey, and Weiss (2003), exposure to multiple traumatic events increases one’s risk for developing PTSD. As such, an individual who experienced considerable trauma exposure during their employment (e.g., a police officer) might be at greater risk to develop PTSD following a work-related trauma, relative to an individual whose employment history did not contain prior trauma exposure. In this instance, the “similarly situated” standard would ignore the impact of cumulative trauma in making a WC determination. Similar problems exist with the other standards stated by the Court in *Crosby v. City of Burlington*.

Another issue that pervades the state WC insurance system involves inconsistency between states regarding whether psychologists may provide an independent medical examination (IME). Depending on the state, an IME may be initiated by the employer, employee, WC Insurance Board, or ALJ and are considered impartial evaluations, conducted by an objective third party. Psychological testing is particularly well suited for IMEs due to the wealth of published data available for these types of assessments (e.g., Pichowski, 2011). Fraud and abuse can be particularly problematic in these cases and an IME may be requested if there is a dispute about the claimant's injury or a suspicion of malingering. Fortunately, literature exists concerning specific types of patients, particular disorders, response patterns that indicate dissimulation, and related testing parameters, depending on the specific psychological test (e.g., Rogers, 2012). At present, 17 states allow psychologists to perform IMEs, whereas 21 states do not permit this (American Psychological Association, 2009). These figures stand in contrast to the salient role that psychologists have played in establishing valid and reliable assessment tools for IMEs (e.g., Piechowski, 2011). Hence, not only are WC standards at odds with scientific definitions and standards, but they also fail to use the largest body of licensed doctoral-level examiners and treatment providers available.

Review and Examples of the Federal WC Insurance Laws

A separate WC system exists for federal workers, the Division of Federal Employees' Compensation. The regulations and procedures for the civilian federal system are enumerated in the *United States Federal Employees' Compensation Act Procedure Manual*, (U.S. Department of Labor, 1995), which originated in 1916 and covers more than 2.7 million federal employees. Disability benefits under FECA are greater than those in the state WC programs (Ladou, 2010). For example under FECA, the term "injury" refers to "all diseases proximately caused by the employment as well as . . . aggravation of a preexisting condition." (U.S. Department of Labor, 1995, P2, 2-0200-2). In stark contrast to the extreme stress criteria used by many states, the federal system provides for compensation for "emotional stress in carrying out assigned employment duties, or . . . fear and anxiety regarding his or her ability to carry out these duties" (U.S. Department of Labor, 1995, P2, 2-0804-17-a). Moreover, traumatic injuries are defined and include "traumatic mental disorder; stress; nervous condition" (U.S. Department of Labor, 1995, P2, Exhibit 1). Note that contrary to some state statutes that define PTSD as an occupational disease, the federal guidelines consider an occupational disease as the result of "daily pressures, adverse effects of shift changes, or harassment by supervisors" (U.S. Department of Labor, 1995, P2, 2-0807-4), whereas PTSD is considered to be a mental disorder that follows a single or recurrent traumatic event(s). As such, the federal statutes recognize psychological responses to difficult work environments from exposure to work-related trauma. The federal WC insurance rules provide coverage of any mental disorder under the Other Disability category (U.S. Department of Labor, 1995, P2, Exhibit 1) and include clinical psychologists in their definition of professionals who can conduct IMEs (U.S. Department of Labor, 1995, P2, 2-0805-3).

Despite these strengths, many of the federal laws are occupation-specific, which results in laws that do not apply consistently across employment domains. Weiss and Farrell (2006) reviewed PTSD claims in the railroad industry and found that train drivers were at risk for PTSD following involvement in serious accidents and suicides. However, the development of PTSD in the absence of physical injury is not compensable. For example, Bloom (*Bloom v. Consolidated Rail Corp.*, 1994) witnessed pedestrians commit suicide by jumping in front of the trains he was driving and subsequently developed PTSD. The Bloom decision found that railroad workers outside the "zone of danger" would not be compensated. A zone of special danger applies when the circumstances of the work increases the risk of physical injury to the employee. In this instance and others (e.g., *Gottshall v. Consolidated Rail Corp.*, 1994), the employee was not compensated for PTSD because he was not within a zone of physical danger.

As another example of an occupation-specific legislation, the Division of Longshore and Harbor Workers' Compensation is governed by the *Longshore and Harbor Workmen's Compensation Act of 1927* (LHWCA) and applies to maritime employees to cover injuries occurring upon the navigable waters of the United States (LHWCA, 1927, 33 U.S.C. § 903(a)). The federal statute related to LHWCA, 902(2) acknowledges that a psychological impairment can be included as an injury under the Act unless refuted by evidence (Chiu, 2008). Similarly, Veterans Benefits Administration of the Department of Veterans Affairs provides benefits to veterans and service members for psychological disability compensation (U.S. Department of Veteran's Affairs, 2013). In fact, as of 2010, the Veterans Benefits Administration issued new regulations on PTSD claims that were intended to streamline the claims process in some cases by no longer requiring extensive corroboration of the traumatic stressor involved in service-related claims (U.S. Department of Veterans Affairs, 2010).

Although there are sectors of the federal WC insurance system that contain disparities between mental and physical disability coverage, most federal programs cover mental health problems following work-related trauma exposure (e.g., the Federal Employer's Liability Act, LHWCA, VA), albeit with some of the same restrictions as noted in some state statutes. However, the federal WC insurance system more consistently recognizes mental health problems following work-related traumas, relative to the state systems. In addition, psychologists may conduct IMEs under Federal Employer's Liability Act and subsequently under all programs that have adopted their standards. Although there are some exceptions (e.g., Division of Coal Miners Workers' Compensation), psychologists are included in most federal WC statutes.

Implications for Policy and Patient Care

This review documents considerable variation at the state and federal levels in WC insurance coverage of psychological injuries following work-related trauma exposure. As noted, state WC laws vary widely, with a number of nuanced legal interpretations that are state-specific.

The federal statutes are more consistent in allowing WC benefits for work-related psychological injuries. At present, the VA system of the Department of Veterans Affairs has perhaps the most

psychologically oriented disability compensation policy, assuming the traumatic stressor is legitimate if it:

is related to the veteran's fear of hostile military or terrorist activity and a VA psychiatrist or psychologist, or a psychiatrist or psychologist with whom VA has contracted, confirms that the claimed stressor is adequate to support a diagnosis of PTSD and that the veteran's symptoms are related to the claimed stressor, provided that the claimed stressor is consistent with the places, types, and circumstances of the veteran's service. (*Stressor Determinations for Post-traumatic Stress Disorder*, 2010, p. 39842)

Note that not only is expert confirmation of the stressor necessary to support a PTSD diagnosis, but psychologists' opinions on this matter are provided equal weight to their psychiatrist colleagues. In considering these statutes, we highlight two policy issues, which impact the field of psychology and patient care.

Lack of parity in WC insurance between physical and mental health injuries. Despite federal laws to improve mental health insurance benefits in the private sector (e.g., Barry, Huskamp, & Goldman, 2010), the rate and nature of these changes has not been mirrored in the WC domain. Although 19 states have laws covering mental-mental benefits, this represents less than 40% of the 50 states. Moreover, as noted in the example of *Cocking v. City of Montgomery* (2010), specific case law sometimes does not support the state-level policy. As noted in the online supplement, WC uniformly covers physical-physical injuries at both the state and federal levels, unlike mental-mental coverage. The inconsistent insurance coverage for physical versus mental health injuries is notably discrepant from federal initiatives such as *The Patient Protection and Affordable Care Act* (2010; P.L. 111-148), signed into law in 2010. Although many opinions exist concerning whether physical and mental health injuries should be equally covered, the current status of WC coverage is at-odds with national trends toward parity in insurance coverage for mental health conditions.

Lack of reliance on psychological science. Among those states that require extraordinary or unusual circumstances to grant WC coverage, the definition of "extraordinary" does not rest on current empirical knowledge of trauma but instead relies on guidelines provided by the ALJ or definitions that have been shown to be unreliable and antiquated with respect to psychological science. This is only one of many examples where the lack of inclusion of current psychological knowledge of trauma-related mental health conditions results in laws that are not evidence-based. This issue is further compounded by inconsistencies in whether psychologists are permitted to conduct IMEs in determining benefits for psychological injuries.

The Cost of Untreated Work-Related Mental Health Injuries

There are various reasons why WC may not cover a mental health condition arising from a work-related trauma. However, lack of insurance coverage usually translates into lack of treatment services, which has radiating costs. PTSD is a chronic, unremitting condition that responds well to one of several empirically supported treatments (see Friedman et al., 2014). If treatment is not provided, the individual typically continues to experience symptoms, accompanied by social isolation, disruption in their func-

tioning at work, home, and a significantly reduced quality of life (see Beck & Sloan, 2012). At the level of the individual patient, lack of WC insurance may mean debilitating impairment and continued suffering.

The costs of untreated PTSD are also manifest at other levels. For example, of WCI claimants without permanent physical impairments, the presence of a psychiatric diagnosis was the only significant predictor associated with not returning to work (Hensel, Bender, Bacchiochi, & Dewa, 2011). Several studies have noted that psychiatric problems are significantly associated with increased risk for on-the-job injuries (e.g., Palmer, Harris, & Coggon, 2008). Goetzel et al. (2004) reported that 47% of the costs associated with mental health disorders in the workplace were due to absenteeism and disability. In particular, anxiety disorders and PTSD result in an increased risk of costly chronic medical conditions such as hypertension, coronary heart disease, and metabolic syndromes (e.g., Player & Peterson, 2011). Thus, restricted access to treatment for PTSD following work-related trauma may reduce immediate costs in the WC insurance system, but the employer will likely see significant increases in direct medical costs and indirect costs such as absenteeism, on-the-job injuries, and short- and long-term disability. Ultimately, long-term disability rates may translate into job loss. The *Substance Abuse and Mental Health Services Administration* (2008) estimated that it costs employers 25–200% of an employee's salary to train and replace a worker. As such, there are substantial costs to employers of untreated work-related mental health injuries.

At a societal level, WC is typically the first point of entry to health care for employed Americans who are injured on the job. Indeed, the costs for employees who do not receive adequate and complete care and fail to return to work in the WC insurance system are ultimately shifted to other state and federal programs. In examining the costs of chronic mental illness, Insel (2008) reported that income loss, health care costs, disability benefits, cash assistance, food stamps, and public housing financed by federal and state revenues totaled \$317 billion for 2002 alone.

Summary and Recommendations

This review highlights the current status of state and federal WC insurance coverage for PTSD resulting from work-related trauma exposure. The discrepancies related to compensable psychological injuries ideally require a consistent remedy. In 2009, the *American Public Health Association* recommended that the WC insurance system should be replaced by a national program to provide uniform coverage for all American workers; this system would have national standards related to injury and disability that would be applied consistently. Although the state and federal laws governing WC have undergone some revision and reform, numerous stakeholders have been unable to reach agreement on proposals (LaDou, 2012).

Lax (2010) has enumerated potential problems with any WC insurance reform, including the lack of a movement to push such an agenda forward. The WC insurance programs, like the private and federal health insurance plans, could benefit from a "restructuring of designs required by the Parity Act" (Sturm & McCulloch, 1998, p. 82). Beginning in 2014, states have been incentivized to include essential benefits as a requirement for insurance plans, including mental health and substance abuse treatment. Should

these benefits not be provided, the state will pay additional costs for those benefits for exchange enrollees. It appears that in the WC system, similar parity regulations could provide fair and equitable coverage for those who sustain mental health injuries as a result of work-related trauma, including access to doctoral-level psychologists.

We recommend an incremental approach to WC reform focused on the unmet mental health needs of employees with PTSD in the aftermath of work-related trauma. Because WC insurance is often the gateway to other forms of state and federal assistance, it is imperative that it be recognized as a significant point of triage that extends beyond the employer and the client. We offer three recommendations. First, we recommend adoption of a uniform standard of mental health coverage across state and federal WC plans that are consistent with national insurance requirements. Such plans would cover all mental health conditions the same as physical conditions. Second, we recommend that IME assessments of PTSD and all mental health injuries fall within the purview of doctoral level professionals who have the training, expertise, and statutory scope of practice to legally diagnose and treat these conditions. Third, we posit that inclusion of psychological science to inform WC insurance statutes will improve the reliability and validity of legislative statutes. Involving psychologists in IMEs and utilizing an evidence-based approach to issues such as the definition of a trauma and the role of cumulative trauma, could improve the reliable application of WC statutes, particularly if data-based psychological principles were to permeate case law. Like physical health care, we believe the evidence is clear that the integration of mental health coverage into the WC insurance system is not only cost-effective for employers and insurers, but will provide relief for workers and hasten their return to work. In the absence of a federal mandate, we believe that these issues should serve as a call for organized legislative efforts to achieve these goals.

References

- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders*. (3rd ed.). Washington, DC: Author.
- American Psychiatric Association. (1987). *Diagnostic and Statistical manual of mental disorders* (3rd ed., revis.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychological Association. (2009). *Should you consider doing independent medical examinations for workers' comp? Practice Update*. Retrieved from <http://www.apapracticecentral.org/business/management/should-you-consider.aspx>
- American Public Health Association. (2009). *Workers' Compensation Reform, Policy No. 20097*. Retrieved from <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1381>
- Anthony v. Fairfax County Department of Family Services, 36 Va. App. 98, 103, 548 S. E. 2d 273, 276. (2001). Retrieved from <http://caselaw.findlaw.com/va-court-of-appeals/1371361.html>
- Barry, C. L., Huskamp, H. A., & Goldman, H. H. (2010). A political history of federal mental health and addiction insurance parity. *Milbank Quarterly*, 88, 404–433. <http://dx.doi.org/10.1111/j.1468-0009.2010.00605.x>
- Beck, J. G., & Sloan, D. M. (Eds.) (2012). *The Oxford handbook of traumatic stress disorders*. New York, NY: Oxford University Press. <http://dx.doi.org/10.1093/oxfordhb/9780195399066.001.0001>
- Bentley v. Spartanburg Co., & S. C. Association of Counties, S. I. F. (2012). Retrieved from www.judicial.state.sc.us/opinions/HTMLFiles/SC/27140.pdf
- Bloom v. Consolidated Rail Corp., 41 F. 3d 911 (3rd Cir.) (1994). Retrieved from <http://www2.ca3.uscourts.gov/opinarch/94a0911p.txt>
- Bureau of Labor Statistics, U.S. Department of Labor. (2010). *Survey of occupational injuries and illnesses in cooperation with participating state agencies (Table R45)*. Retrieved from <http://www.bls.gov/iif/oshwc/osh/case/ostb2869.pdf>
- Chiu, M. (2008). *Status report on DBA claim administration*. Retrieved from <http://www.dol.gov/owcp/dlhw/DBAClaimAdministrationStatusReport.htm>
- Cocking v. City of Montgomery, 48 So. 3d 647. (Ala. Civ. App. 2010). Retrieved from <http://law.justia.com/cases/alabama/court-of-appeals-civil/2010/2081198.html>
- Crosby v. City of Burlington, 844 A. 2d 722 (Vt. 2003). Retrieved from <http://libraries.vermont.gov/sites/libraries/files/supct/176/2001-2710p.txt>
- Davison v. Industrial Claim Appeals Office, 84 P. 3d 1023 (Colo. 2004). Retrieved from <http://caselaw.findlaw.com/co-supreme-court/1389218.html>
- DeCarlo, D. T. (2012). Workplace stress in a nutshell. *AMCOMP Views, Summer*, 2–4.
- Friedman, M. J., Keane, T. M., & Resick, P. A. (2014). (Eds.) *Handbook of PTSD: Science and Practice* (2nd ed.). New York, NY: Guilford Press.
- Galea, S., Nandi, A., & Vlahov, D. (2005). The epidemiology of post-traumatic stress disorder after disasters. *Epidemiologic Reviews*, 27, 78–91. <http://dx.doi.org/10.1093/epirev/mxi003>
- Garner, B. A. (Ed.). (2009). *Black's law dictionary* (9th ed.). St. Paul, MN: West Publishers.
- Goetzel, R. Z., Long, S. R., Ozminkowski, R. J., Hawkins, K., Wang, S., & Lynch, W. (2004). Health, absence, disability, and presenteeism cost estimates of certain physical and mental health conditions affecting U.S. employers. *Journal of Occupational and Environmental Medicine*, 46, 398–412. <http://dx.doi.org/10.1097/01.jom.0000121151.40413.bd>
- Gottshall v. Consolidated Rail Corp., 988 F. 2d 355 (U.S. Court of Appeals, 3rd Circuit 1993). Retrieved from <http://supreme.justia.com/cases/federal/us/512/532/>
- Halpern, J., Gurevich, M., Schwartz, B., & Brazeau, P. (2009). What makes an incident critical for ambulance workers? Emotional outcomes and implications for intervention. *Work & Stress*, 23, 173–189. <http://dx.doi.org/10.1080/02678370903057317>
- Hensel, J. M., Bender, A., Bacchiochi, J., & Dewa, C. S. (2011). Factors associated with working status among workers assessed at a specialized worker's compensation board psychological trauma program. *American Journal of Industrial Medicine*, 54, 552–559. <http://dx.doi.org/10.1002/ajim.20944>
- Hensel, J., Bender, A., Bacchiochi, J., Pelletier, M., & Dewa, C. S. (2010). A descriptive study of a specialized worker's psychological trauma program. *Occupational Medicine*, 60, 654–657. <http://dx.doi.org/10.1093/occmed/kqq118>
- Insel, T. R. (2008). Assessing the economic costs of serious mental illness. *The American Journal of Psychiatry*, 165, 663–665. <http://dx.doi.org/10.1176/appi.ajp.2008.08030366>
- Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62, 617–627. <http://dx.doi.org/10.1001/archpsyc.62.6.617>
- Kilpatrick, D. G., Resnick, H. S., Milanak, M. E., Miller, M. W., Keyes, K. M., & Friedman, M. J. (2013). National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and DSM-5 criteria. *Journal of Traumatic Stress*, 26, 537–547. <http://dx.doi.org/10.1002/jts.21848>

- LaDou, J. (2012). Workers' Compensation Reform. *International Journal of Occupational and Environmental Health*, 18, 92–95.
- Lax, M. B. (2010). Workers' Compensation reform requires an agenda . . . and a strategy. *New Solutions*, 20, 303–309. <http://dx.doi.org/10.2190/NS.20.3.d>
- Leigh, J. P. (2011). Economic burden of occupational injury and illness in the United States. *The Milbank Quarterly*, 89, 728–772. <http://dx.doi.org/10.1111/j.1468-0009.2011.00648.x>
- Longshore and Harbor Workers' Compensation Act*, 33 U.S. C. § 901 et seq. (1927). Retrieved from <http://www.dol.gov/owcp/dlhwc/lhwca.htm>
- Lötters, F., Franche, R. L., Hogg-Johnson, S., Burdorf, A., & Pole, J. D. (2006). The prognostic value of depressive symptoms, fear-avoidance, and self-efficacy for duration of lost-time benefits in workers with musculoskeletal disorders. *Occupational and Environmental Medicine*, 63, 794–801. <http://dx.doi.org/10.1136/oem.2005.020420>
- Marmar, C. R., McCaslin, S. E., Metzler, T. J., Best, S., Weiss, D. S., Fagan, J., . . . Neylan, T. (2006). Predictors of posttraumatic stress in police and other first responders. *Annals of the New York Academy of Sciences*, 1071, 1–18. <http://dx.doi.org/10.1196/annals.1364.001>
- McFarlane, A. C., Williamson, P., & Barton, C. A. (2009). The impact of traumatic stressors in civilian occupational settings. *Journal of Public Health Policy*, 30, 311–327. <http://dx.doi.org/10.1057/jphp.2009.21>
- Means v. Baltimore County*, 689 A. 2d 1238 (Md. 1997). Retrieved from www.courts.state.md.us/opinions/coa/1997/20a96.pdf
- Merikangas, K. R., Ames, M., Cui, L., Stang, P. E., Ustun, T. B., Von Korff, M., & Kessler, R. C. (2007). The impact of comorbidity of mental and physical conditions on role disability in the US adult household population. *Archives of General Psychiatry*, 64, 1180–1188. <http://dx.doi.org/10.1001/archpsyc.64.10.1180>
- Merrikin, K. J., Overcast, T. D., & Sales, B. D. (1982). WC law and the compensability of mental injuries. *Health Psychology*, 1, 373–387. <http://dx.doi.org/10.1037/h0090240>
- Neria, Y., DiGrande, L., & Adams, B. G. (2011). Posttraumatic stress disorder following the September 11, 2001, terrorist attacks: A review of the literature among highly exposed populations. *American Psychologist*, 66, 429–446. <http://dx.doi.org/10.1037/a0024791>
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin*, 129, 52–73. <http://dx.doi.org/10.1037/0033-2909.129.1.52>
- Palmer, K. T., Harris, E. C., & Coggon, D. (2008). Chronic health problems and risk of accidental injury in the workplace: A systematic literature review. *Occupational and Environmental Medicine*, 65, 757–764. <http://dx.doi.org/10.1136/oem.2007.037440>
- Pichowski, L. D. (2011). *Evaluation of workplace disability*. New York, NY: Oxford University Press.
- Player, M. S., & Peterson, L. E. (2011). Anxiety disorders, hypertension, and cardiovascular risk: A review. *International Journal of Psychiatry in Medicine*, 41, 365–377.
- Pitman, R. K., & Sparr, L. F. (1998). PTSD and the Law. *PTSD Research Quarterly*, 9, 1–6.
- Rogers, R. (Ed.). (2012). *Clinical assessment of malingering and deception* (3rd ed.). New York, NY: Guilford Press.
- Sengupta, I., Reno, V. P., Burton, J. F., & Baldwin, M. L. (2012). *WC: Benefits, coverage, and costs, 2010*. Washington, DC: National Academy of Social Insurance. Retrieved from <http://www.nasi.org/research/2012/report-workers-compensation-benefits-coverage-costs-2010>
- Smith v. County of Arlington, Va. App. Record No. 1902–10–4* (Va. Apr. 19, 2011). Retrieved from <http://law.justia.com/cases/virginia/court-of-appeals-unpublished/2011/1902104-0.html>
- Stressor Determinations for Posttraumatic Stress Disorder, 2010. 38 CFR Pt. 3, RIN 2900-AN32, 39843–39852 (2010).
- Sturm, R., & McCulloch, J. (1998). Mental health and substance abuse benefits in carve-out plans and the Mental Health Parity Act of 1996. *Journal of Health Care Finance*, 24, 82–92.
- Substance Abuse and Mental Health Services Administration. (2008). *Issue Brief #1 for employers: Save your company money by assuring access to substance abuse treatment*. Washington, DC: Author.
- Tanabe, R. P. (2012). *Workers' Compensation Laws as of January 2012 (Table 9)*. Cambridge, MA: Workers Compensation Research Institute and International Association of Industrial Accident Boards and Commissions.
- The Patient Protection and Affordable Care Act, 42 U.S. C. § 18001. (2010). *U. S. Gov't. Printing Office*. Retrieved from <http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/html/PLAW-111publ148.htm>
- U.S. Department of Labor. (1995). *Federal employees' compensation act procedure manual*, Pt. 2. Retrieved from www.dol.gov/owcp/dfec/regis/compliance/DFECFolio/FECA-PT2.pdf
- U.S. Department of Veterans Affairs. (2010). *New regulations on PTSD*. Retrieved from www.va.gov/ptsd_qa.pdf
- U.S. Department of Veteran Affairs. (2013). *Compensation list by symptom*. Retrieved from http://www.benefits.va.gov/COMPENSATION/dbq_ListBySymptom.asp
- Weiss, K. J., & Farrell, J. M. (2006). PTSD in railroad drivers under the Federal employers' liability act. *Journal of the American Academy of Psychiatry and the Law*, 34, 191–199.
- Worker's Compensation Act of Colorado, Article 41, 8–41-301*. (2010). Retrieved from http://www.state.co.us/gov_dir/leg_dir/olls/analyses/title08.pdf
- Worker's Compensation Research Institute. (2012). *Workers' Compensation Laws as of January 2012*. Cambridge: MA.

Received May 8, 2014

Revision received February 20, 2015

Accepted March 5, 2015 ■