



**Testimony of
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On behalf of the
Vermont Association of Professional Fire Fighters
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Good morning to the Chair and members of the committee. Thank you for allowing me to present to you. My name is Suzy Bird Gulliver and I am a Clinical Psychologist and Professor of Psychiatry at Texas A&M College of Medicine. I am here today at the request of the International Association of Fire Fighters (IAFF) on behalf of the Vermont Association of Professional Fire Fighters.

I need to make the standard disclaimer that my testimony today is my own and does not necessarily reflect the views of my employers Baylor Scott & White Health or Texas A&M College of Medicine.

Today I will discuss four related topics:

- 1) the extraordinary number of potentially traumatic events that fire fighters are routinely exposed to in their work;
- 2) the increased risk for Post-traumatic Stress Disorder (PTSD) fire fighters experience as a result of these traumatic exposures;
- 3) the data demonstrating that PTSD is treatable and need not end a fire fighter's career, and;
- 4) how the proposed change in legislation can make a dramatic difference in the lives of fire fighters who develop a work-related mental health diagnosis.

I would like to start by briefly telling you about the IAFF and my involvement with this organization. The IAFF is an international union that represents approximately 300,000 paid professional fire service employees in the United States and Canada. The IAFF has been actively involved in improving the holistic health and safety of fire fighters for more than 90 years. This is a critical activity for a workforce in which fatalities and early retirement due to work-related injuries and illnesses occur regularly. I have been involved with the Union since the weeks following 9/11/01, when I was funded by NIMH as Co-principal Investigator on the first of a series of studies to determine the psychological effects of traumatic exposure in fire service. The majority of my clinical and research work since that time has been with fire service, and I am pleased to serve on multiple projects designed to improve the quality of life of fire fighters exposed to potentially traumatic events as a normal portion of their employment.

Occupational Trauma Exposures of Fire Fighters

First, let me provide some context. In the most recent publication of trauma exposure among American adults, 89.7% of adults had at least one exposure, and the most frequent number of potentially traumatic exposures in a **lifetime** was 3.

In contrast, fire fighters routinely encounter as many as four unique potentially traumatic events in response to a single alarm. Fire fighters frequently experience life-threatening accidents, natural disasters, chemical or biological exposure, suicide of co-worker(s) or civilians, terrorist incidents, multi-casualty accidents, significant life-threatening events

involving children, and witness injury or death (IAFF, 1992, 1995, 1999, 2001).

Increasingly, fire fighters' duties require that they also respond to large-scale catastrophic events, including terrorist, natural, and technological disasters. Examples of such catastrophic loss include, the loss of 343 New York City fire fighters who responded to the terrorist attacks on the World Trade Center (WTC) on 9/11/01; the rescue and recovery work by fire fighters following the devastating impact of Hurricanes Katrina and Rita in 2005; the nine fire fighters lost in Charleston in 2007; the daily battles fire fighters fought to control the destruction in 2012 caused by one of the worst wildfire seasons in Colorado; the local fire fighter response to 2012 Aurora, Colorado movie theatre shooting; and more recently the immediate response of 150 fire fighters to the Boston Marathon bombing in April of 2013; and the West (Texas) Fertilizer Plant Explosion also in April of 2013 that claimed the lives of 11 fire fighters and 4 civilians.

Thus, fire fighters can be exposed to the typical civilian **lifetime** number of events in a single shift. The overwhelming majority of career fire fighters work a minimum of 20 years. Thus, their cumulative occupational exposure to potentially traumatic events far exceeds the exposure of civilians.

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In our work with fire fighter recruits from seven urban departments, the mean number of exposures to potentially traumatic events during the first three years of service was four events per year. Fire fighter recruits reported as few as one exposure and as many 14 distinctly separate types of trauma over the first three years of service. 75% of these events occurred in the line of duty. Thus a seasoned fire fighter may have a lifetime exposure to well over a hundred -potentially traumatic events in a 25 year career.

Despite increasing public awareness of fire fighters' exposure to trauma, fire fighters have been understudied. I know of only a handful of researchers attending to the psychological injuries in fire service in the US. Even though there are few experts on trauma and PTSD in the fire service, among those experts, there is widespread agreement and acknowledgement that the trauma exposure load is extraordinary.

Fire Fighter PTSD Risk

Pioneering work in trauma-related disorders demonstrates that repeated exposures to traumatic events combined with stressful workplace conditions results in meaningfully increased rates of trauma-related disorders including PTSD. Given the extraordinary trauma load of the fire profession, it follows that fire fighter rates of PTSD would be higher than civilian rates of PTSD. After all, despite the fact that the majority of adults have at least one exposure to a potentially traumatic event in their lifetime, only 8.3% of those exposed develop PTSD in civilian samples.

The existing literature presents variable prevalence rates of PTSD in the firefighting profession, ranging from 5-37% among fire fighters depending on the sample studied and measure used. Only two studies report PTSD prevalence rates among fire fighters using a diagnostic interview assessment. Bryant and Guthrie (2007) used the Clinician Administered PTSD Scale to assess a sample of 68 fire fighter trainees, and while no fire fighters were diagnosed at baseline, four years later, 12% met criteria at PTSD. Using the Diagnostic Interview Schedule (DIS), a structured clinical interview North et al. (2002b) reported that the prevalence of PTSD following the Oklahoma City bombing was significantly lower in the rescue workers (13%) than in the victims (23%), though rates were still higher than PTSD prevalence rates documented in the general population.

Several studies evaluated the prevalence of PTSD using the Impact of Event Scale (IES), a self-report measure that assesses intrusive and avoidant experiences after a stressful life event (Creamer, Bell & Failla, 2003; Horowitz, Wilner & Alvarez, 1979). Corneil and colleagues (1999) assessed PTSD prevalence among U.S. ($N = 203$) and Canadian ($N = 625$) fire fighters and found that 22% of the U.S. fire fighters and 17% of Canadian fire fighters endorsed symptoms consistent with PTSD. Consistent with those findings, Chang and colleagues (2003) reported a 21.4% rate of probable PTSD in a sample of 84 Asian male fire fighters. In a study of 188 fire fighters from urban U.S. fire departments, Murphy et al. (1999) found that 26.5% of participants met criteria for probable PTSD at baseline, and 22.2% at a 2-year follow-up.

Researchers have used other self-report measures to assess PTSD symptoms in fire fighter samples. In their longitudinal study of 43 professional fire fighters, Heinrichs and colleagues (2005) assessed PTSD using the self-report version of the PTSD Symptom Scale (PSS; Foa, Riggs, Dancu & Rothbaum, 1993), which assesses DSM-IV criteria and severity of PTSD symptoms. At a 24-month follow-up, 16.3% of participants met criteria for PTSD, and 18.6% of participants met criteria for subsyndromal PTSD. Similarly, in a sample of 402 professional fire fighters in Germany, Wagner and colleagues reported current prevalence of PTSD at 18% using the PSS (Wagner et al., 1998). Using an adapted version of the PSS, the Posttraumatic Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997), Haslam and Mallon (2003) found that 6.5% of United Kingdom fire service workers (N = 31) met criteria for PTSD.

Treatment Outcome for PTSD

The Institute of Medicine (IOM) convened an expert panel at the request of the Department of Veterans Affairs to review the treatment outcome evidence for PTSD. The IOM's report indicates that there are multiple effective Cognitive Behavioral treatments (CBTs) for PTSD including Prolonged Exposure (PE), Cognitive Processing Therapy (CPT) and Eye-Movement Desensitization and Reprocessing (EMDR) -with the greatest amount of evidence supporting PE. Approximately 60% of people receiving evidence-based treatments report symptom improvement. About 40% no longer meet criteria for PTSD at the conclusion of treatment. Most treated individuals report a return to functional status. Thus, the preponderance of evidence indicates that PTSD is a **treatable as opposed to a chronic condition**. This is not to say that those with PTSD are not forever changed by their condition. Over 50 years of VA research has demonstrated that PTSD can in fact completely incapacitate some sufferers.

To date, only two published randomized controlled trials address treatment outcome in fire fighters with PTSD. **The very promising news from these studies is that the effect**

sizes for the psychological treatments are large. Thus, we can hope that the treatments we have tested on other populations will be equally, if not more, effective in fire fighter samples.

Impact of Workers' Compensation For Fire Fighters Who Develop Occupationally Related PTSD

When fire fighters are diagnosed with PTSD as a result of their job, they face a system that is stacked against them. In the absence of presumptive legislation, the fire fighter has to prove that his or her PTSD is work-related. This involves finding legal counsel to help with the process and a health care provider who understands the complex causation issues for work-related PTSD which is much more challenging than for physical injuries. Sometimes a fire fighter might be asked to identify the exact exposure that caused their PTSD which is sometimes nearly impossible. In addition, PTSD treatment is often a very difficult process which can take many months. When these occupationally-induced mental health conditions are not covered by workers compensation, fire fighters must use up leave time and may have to use personal savings in order to cover treatment costs after the insurance maximum is met. Workplace accommodations are very difficult for patients when the work is as physically demanding as firefighting. It's true that whether by health insurance or workers' compensation, someone in the system has to pay the costs. But these **additional burdens should not be placed on fire fighters when they develop PTSD that studies have shown is clearly a result of their occupation, and clearly treatable.**

Several reasons are commonly presented against presumptive PTSD legislation. First is the concept of the slippery slope, if we do this for one occupation we will have to do this for all. As I have shown in my initial discussion on fire fighter exposures, there are dramatic differences between their exposures and the rest of the US workforce. These differences make presumptive legislation uniquely applicable to fire fighters. Secondly, and perhaps more compellingly, the cost of educating a new fire fighter far exceeds the

cost of treating and returning to duty a fire fighter with a work-related mental health diagnosis.

In summary, multiple epidemiological and clinical assessment studies clearly document that fire fighters are exposed to trauma at high levels in their work. Data also clearly show that fire fighters are at increased risk of developing PTSD. We also know that the current workers' compensation system places an enormous burden on individual fire fighters who develop PTSD.

Presumption of PTSD in fire fighters is becoming accepted throughout the firefighting community as well as the mental health profession. Sadly, none of the states in the United States have such legislation. It is time that Vermont acts on the science and enacts legislation to help fire fighters who develop work-related mental health disorders including PTSD.

Thank you for your time and consideration.

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