Developing a Critical Incident Stress Management Policy for the Worthington Fire Department

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Certification Statement

I hereby certify that this paper constitutes my own project, that where the language of others set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed:_____

Abstract

The problem was that the WFD had not developed a policy that addresses how to recognize and manage problems brought on by critical incident stress. The purpose of this applied research project was to evaluate the need for developing a Critical Incident Stress Management policy for the department. An evaluative research methodology was used to answer the following questions: (1) What is critical incident stress; (2) What are the signs and symptoms of Critical Incident Stress (CIS); (3) What is critical incident stress management; (4) How have other agencies developed similar policies?

Research procedures included a comprehensive literature review that related to research questions 1-4. A survey that targeted current EFO members and personal interviews were utilized to determine the signs and symptoms of critical incident stress and how others have developed similar policies.

The results of the project indicated that critical incident stress is a result of experiences that involve death, injury, or destruction. The associated symptoms were classified as physical, cognitive, behavioral, and emotional. Symptoms lasting longer than thirty days would be classified as post traumatic stress. Critical incident stress management was defined as a systematic process that included education, prevention, and mitigation. Key components for similar programs included education, peer support development, and identifying what were critical incidents that required mandatory participation in the program.

The results also supported the recommendation that there was a need for a critical incident stress management program that included education, defining a critical incident and the symptoms, peer support program development, mandatory participation parameters, CISM team

member development, how team members can be contacted, and use of trained personnel to assist with program development.

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Introduction

The Worthington Fire Department (WFD) is located in the suburbs of Louisville, Kentucky. WFD responds to all kinds of interstate highway emergencies, fire and emergency medical calls as well as hazardous materials incidents, confined space, water rescue, and rope rescue incidents. The makeup of the department consists of seasoned firefighters who have probably been exposed to countless critical incidents and those who are relatively new to the fire service that have yet to see any critical incidents. But regardless of the experience levels, they will continue to respond to these critical incidents that involve widespread property damage and a significant loss of life because that is the nature of the job.

Through it all the staff of WFD is expected to continue to do their jobs while setting aside personal feelings but it has been proven that critical incidents can lead to critical incident stress. The problem is that the WFD has not developed a policy that addresses how to recognize and manage problems brought on by critical incident stress. The purpose of this applied research project is to evaluate the need for developing a Critical Incident Stress Management policy for the department. Through an evaluative research methodology the following questions will be answered: (1) What is critical incident stress; (2) What are the signs and symptoms of Critical Incident Stress (CIS); (3) What is critical incident stress management; (4) How have other agencies developed similar policies?

Background

The Worthington Fire Protection District (WFD) is one of 18 Metro Louisville Suburban Fire Districts, which covers 20 square miles in northeastern Jefferson County and a part of Oldham County. It services primarily the 40241 zip code having a residential population of 24,421. The overall population WFD serves consists of 35,000 residents and a daytime

population of approximately 75,000. WFD also services two main interstate highways, a main railroad line, and various other manufacturing facilities including the 6 million square foot Ford Truck Assembly Plant. WFD operates from three stations, which respond to nearly 2000 runs a year. The responses include fire, medical, hazardous materials, confined space, trench rescue, and technical rope rescue.

WFD is an ISO Class 3 combination fire department operating on a 3.9 million dollar budget. It has 24 career employees, 4 part time employees, and 20 volunteers. With these personnel, one engine company and a truck company is staffed 24 hours a day, and a second engine is staffed nightly by a 9 hour volunteer crew. In addition, they are fortunate to have the staffing capabilities that are dedicated to community risk reduction that includes a 40 hour captain and a 24/48 sergeant.

A breakdown of the personnel indicates that 33% have less than five years in the fire service; 18% have between 5-10 years in the fire service; 27% have 11-20 years in the fire service and 22% have over 21 years of experience. At present, the only program that is currently in place to assist with employee personal problems is a generic employee assistance program (EAP). It has not yet been determined if this program provides specific critical incident stress training or on site assistance in the event of an incident.

The demographics of the protection district have also changed dramatically over the last 15 years and are still changing. The district continues to evolve from a mostly rural area to an area consisting of wider highways, shopping centers, hotels, churches, schools and a rapidly growing population. In reality, the population is growing at a faster rate than the highway infrastructure can handle.

With all of this expansion comes a higher demand for emergency service. In a response to these greater demands, WFD transitioned from a volunteer department to a combination department in 2002. The department has become more proficient in technical rescue and hazardous materials response in addition to furthering the development of basic fire fighting skills. In addition, all of this population and infrastructure growth that has occurred and that is continuing to occur puts the district at greater risk for the potential loss of life and or property damage as the result of natural or technological disasters.

As stated earlier, WFD is part of 18 suburban fire districts that surround the city of Louisville. Even though Worthington's district has a governmental boundary that defines the confines of the protection district, it does not necessarily have an operational boundary. By this I mean that WFD can be dispatched to any part of Jefferson County or for that matter, the city of Louisville as the incident or the need for specific resources dictates. This expanded area of response coverage and the growth the district is experiencing will lend itself to the greater possibility of critical incident exposure. Aside from local response, WFD personnel are part of regional and national technical response teams. One such recent response was hurricane Katrina. WFD sent a number of personnel to the areas affected by Katrina and that one event alone subjected the crews to significant critical incident stress.

This project supports the United States Fire Administration's strategic plan operational objectives of improving the fire and emergency services' professional status as well as leading the Nation's fire and emergency services by establishing and sustaining the USFA as a dynamic organization. ("USFA Strategic Plan, 2012," 2012, p. 2) This project also supports and is relevant to the training objectives of the United States Fire Academy's Executive Leadership class (EL). Specifically the project relates to exercising leadership by thinking outside the

current situation by planning for what may not be clearly evident at the present. This is significant because the compounding affects of critical stress on our firefighters may not be evident in the present but at some unknown time in the future.

Literature Review

The purpose of this literature review is to identify what is critical incident stress, what are the signs and symptoms of critical incident stress, what is critical incident stress management, and how have others developed critical incident stress management policies.

The Occupational Safety & Health Administration (OSHA) requires employers to comply with established standards that relate to work place health and safety. It also requires employers to provide their employees with a working environment that is free from hazards that may lead to injury, illness, or death. Although OSHA does not have a specific standard that relates to the hazards of critical incident stress, it does recommend that employers provide information to their employees regarding critical incident stress in relationship to what it is, what are the signs and symptoms, and what can be done to manage it.

OSHA defines critical incident stress as the physical and psychological effects that someone who responds to critical incidents may experience. Critical incidents are defined as those which workers witness or experience tragedy, serious injury, or death. OSHA also indicates that most instances of critical incident stress is relatively short lived that last anywhere from two days to four weeks compared to post traumatic stress which has longer effects.

OSHA indicates that the signs and symptoms of critical incident stress can manifest themselves physically, mentally, emotionally, or behaviorally. The physical symptoms can include fatigue, chills, unusual thirst, chest pain, headaches, and dizziness. Mental or cognitive symptoms can be uncertainty, confusion, nightmares, poor decision making, concentration or

problem solving ability. Emotional symptoms can be grief, fear, guilt, intense anger, depression, irritability, and chronic anxiety. Behavioral symptoms can include inability to rest, withdrawal, alcoholism, and loss of appetite.

Critical incident stress management is defined by OSHA as a system. The system includes education, prevention, and mitigation. It is also indicated that this system should be developed and administered by trained specialists. The management system also includes monitoring of responders during the emergency response phase and conducting debriefings immediately after the event ("Critical incident stress," 2013).

John Hoffman, (Hoffman, 2012) a certified strength and conditioning coach for the Sacramento (CA) Fire Department addresses Post Traumatic Stress Disorder (PTSD) among firefighters. John indicates that studies have shown that anywhere between 7 percent and 37 percent of firefighters exhibit the symptoms and can meet the diagnosis of PTSD. He characterizes PTSD as an anxiety disorder that was triggered by witnessing or experiencing a traumatic event.

According to Hoffman the following symptoms are consistent with PTSD: a higher resting heart rate, higher resting blood pressure, cognitive disorders, mood swings, and fatigue to name a few. As for fatigue, firefighters are so tired that they become more and more inactive which can lead to other conditions such as heart disease, hypertension, obesity, and depression.

Hormonal levels have also been affected by PTSD such as cortisol. Cortisol's primary functions are to suppress the immune system, regulate blood pressure, and help metabolize fat, carbohydrates and protein. Under normal circumstances, cortisol typically peaks in the morning and decreases as the day goes by. But in people who may be suffering from depression brought

on by PTSD, cortisol does not decrease as the day goes by. Prolonged elevated levels of cortisol may induce clinical depression.

To combat the effects of PTSD in firefighters, Hoffman recommends an exercise regimen along with working with a well trained mental health professional. He recommends aerobic exercise three to five times a week for periods of thirty to forty minutes. He also recommends low to moderate intensity especially if someone is on anti-depressants (Hoffman, 2012).

James Warman also indicates that critical incident stress symptoms can manifest physically, cognitively, emotionally, and behaviorally. Table 1 illustrates the following specific symptoms in addition to those already identified:

Table 1: *Critical Incident Stress Symptoms*

Physical Symptoms	Cognitive Symptoms	Emotional Symptoms	Behavioral Symptoms
Chills Thirst Nausea Fainting Twitches Vomiting Dizziness Weakness Chest Pain Muscle Tremors Shock Symptoms Profuse Sweating	Confusion Nightmares Uncertainty Hyper-vigilance Suspiciousness Intrusive Images Blame Someone Poor Problem Solving Poor Concentration Increased or Decreased Awareness of Surroundings	Fear Guilt Grief Panic Denial Anxiety Agitation Irritability Apprehension Emotional Shock Emotional Outbursts Feeling Overwhelmed	Withdrawal Antisocial Acts Inability to Rest Intensified Pacing Erratic Movements Change of Social Activity Change of Speech Patterns Loss of Appetite Increased Appetite Increased Alcohol Usage

(Warman, 2010, p. 9)

The Texas Department of State Health Services defines Critical Incident Stress Management (CISM) based on a model that was developed by Dr Jeffery Mitchell in the late 1990's. It states: "CISM is a comprehensive, integrative, multi-component crisis intervention system. CISM is considered comprehensive because it consists of multiple crisis intervention

components, which functionally span the entire temporal spectrum of a crisis" ("A Primer On CISM," 2013, p. 1).

The interventions that are alluded to are applied to the various phases of critical incident stress such as pre-crisis phase, acute crisis phase, and the post crisis phase and they can apply individually, small or large groups, families, communities, or organizations. The seven core components associated with this comprehensive intervention program include the following:

- Pre-crisis preparation
- Disaster or large scale support programs
- Defusing by conducting small group discussions within hours of a critical incident
- Critical Incident Stress Debriefing (CISD) usually provided 1 to 10 days post incident. Also referred to as the Mitchell model which was developed by Jeffery Mitchell
- One on one counseling
- Family crisis intervention
- Follow-up and referral

There is also a message of caution issued by the Texas Department of Health and Human Services regarding the use of CISM. Since crisis intervention, specifically CISM is classified as a subspecialty of behavioral health; it should not be implemented without adequate and specific training. It also indicates that no one CISM intervention is designed to stand alone but rather programmatic ("A Primer on CISM," 2013).

CISM International defines a critical incident as an experience that evokes reactions of intense fear, horror, and helplessness. They undermine a person's sense of safety, security, and

confidence. The results of critical incidents are psychiatric injuries referred to as traumatic stress or traumatic impact ("What is a critical incident?" 2013).

The effects of traumatic impact deepen as the body's biochemical systems are continually and significantly aroused. In other words, the body has a flight or fight response that is activated by a perceived danger or threat which causes increased heart rates and respirations, sweating and muscle tightening. If these dangers or threats subside quickly, there is little or no injury or damage. Traumatic impact begins to deepen when the severity of the threats increase or prolonged. "As the body's biochemical systems continue to be significantly aroused, the more deeply entrenched the adverse affects become and the mind and body begin to deteriorate in their ability to function normally" ("Traumatic Impact," 2013, p. 2).

The symptoms of traumatic impact may vary from person to person, may occur quickly, or they may occur months or even years after the event. The effects may go away in a short period of time or they may last for months or even years. If the effects last longer than a month, this is now considered Post Traumatic Stress Disorder or PTSD. This condition requires immediate medical help or counseling ("Symptoms of Traumatic Impact," 2013). The specific symptoms are similar to those listed in table 1.

The compounding effect of events is what firefighters or anyone else in emergency services typically faces as compared to one single life threatening event. PTSD usually focuses on a single life threatening event. "However, the symptoms of traumatic stress also arise from an accumulation of small incidents rather than one major incident ("Post Traumatic Stress Disorder," 2013, p. 2).

Along with the formal aspects of critical incident stress management, tips for coping with critical incident stress were also identified. It is important to understand that shock and denial

are common and normal protective reactions to traumatic events. Once the shock subsides other responses may come into play and they vary from person to person. These include unpredictable feelings, a change in behavioral patterns, flashbacks, and other responses that have already been identified such as heart rate changes, sweating, poor concentration, and disrupted sleep patterns. These reactions may become intensified particularly if someone may be experiencing other stressors such as health, family, financial, or other mental issues. "It is important to for you to realize that there is not one standard pattern of reaction to extreme stress of traumatic experiences. Some people respond immediately, while others have delayed reactions, sometimes months or even years later" ("Coping with Critcial Incidents," 2013, p. 2)

Specific coping strategies identified in Coping with Critical Incidents include but are not limited to the following:

- Give yourself time to heal
- Allow yourself time to mourn
- Be patient with the changes in your emotional state
- Communicate your experience
- Find professionally staffed support groups
- Engage in healthy behaviors
- Avoid major life decisions such as job changes or career changes
- Become knowledgeable about what to expect as a result of trauma

Rick Bacon discusses what he refers to as The Critical Incident Stress Management Program (CISMP). Bacon indicates that CISMP is based on the Mitchell & Everly model, which is a peer driven, clinician supported process. It emphasizes immediate action after an event through the use of individual peer support. Bacon indicates that peer support is effective in

reducing stress, improving health outcomes, improving work performance, and aiding in emotional recovery for people who experience trauma such as health care providers and emergency responders.

The peer support personnel come from within the normal networks of co-workers or friends. The peer support person needs to be approachable, be an effective listener, and be able to assist the colleague with venting. The advanced peer support process will incorporate the use of facilitators. Facilitators are trained in being able to recognize symptoms and to initiate a response in addition to guiding or leading interventions. People who participate as a peer supporter should be encouraged to volunteer to do so and they need to have at least six months of relative work experience (Bacon, 2010).

There are two cultural issues associated with the fire service in general that could possibly hinder the recognition and treatment of critical incident stress and/or PTSD: stoicism and the stigma that firefighters might appear to be weak if they sought help from professional counselors.

According to Bischoff, stoicism has existed in the fire service for decades. He believes that it has contributed to the general lack of understanding of PTSD. But he also feels that more and more fire personnel from the chief level down to the firefighter level are paying more attention to PTSD. Bischoff also quotes Dr. Jennifer Fyler, who oversees the PTSD treatment programs at the Battleboro Retreat in Vermont, as saying: “Because of their roles as caregivers to others, it often is difficult for firefighters to ask for help or even acknowledge that they need help” (Bischoff, 2008, p. 2). Generally speaking, there is the perception of always needing to be strong or else they cannot provide care to others.

Bischoff also indicates that some of the techniques or tactics being used for treatment include meditation, yoga, and peer interaction. "Fyler concurred that peer-to-peer interaction is a giant piece of the treatment puzzle" (Bischoff, 2008, p. 4).

Jeff Dill, who is the founder of Counseling Services for Firefighters, addresses the stigma associated within the fire service is one that a firefighter might be considered weak if he or she seeks help from professional counselors. In order to breakdown the stigma barrier, integration of relationships between counselors and firefighters along with firefighters advocating Employee Assistance Programs (EAPs) are avenues being looked to help facilitate employees coming forward for treatment. The goal is to make firefighters believe that it OK to seek help from professional counselors. "The cultural shift should start at our fire academies, which will allow new firefighters to carry this belief throughout their careers" (Dill, 2011, p. 4)

The Los Angeles County Fire Department has a CISM program that is considered one of the oldest programs in the country. The core components of the program are Critical Incident Stress Debriefing (CISD) and peer support. The program also identifies specific types of incidents that will automatically be considered for CISD. The word automatic vs. mandatory is used so that the debriefings will be viewed as standard operating procedures. The agency developed this program in1986 with its goal of providing behavioral healthcare for its employees (Wright, 2011).

Wright's research into the effectiveness of a peer program within Guilford County Emergency Services in North Carolina indicates that it is an effective follow-up tool for employee wellness issues. He indicated that the employees were receptive to a peer supported program because they felt it was important to have the presence of a peer who understood their jobs and the associated pressures. Wright's recommendations included that the peer support

teams were brought back to full strength and that all members of the support team receive additional training (Wright, 2011).

Warman researched the recognition and management of critical incident stress within the Largo Florida Fire Department in order to develop a standard operating policy relating to critical incident stress management. The policy he developed and recommended for implementation had a format that included the following:

- A definitions section which defines critical incident, CISM, CISM team makeup, debriefing, defusing, demobilization, and Crisis Management Briefing (CMB)
- A procedures section
- A notification process section which identifies under what circumstances that are appropriate for CISM team notification
- A CISM team selection and function section
- A signs and symptoms of critical incident stress section

The Largo policy also sheds light on a few areas yet to be addressed in this review. The first is defusing. This is different than debriefing because it is not as long or structured and it is designed for smaller groups. It is usually performed within twenty-four hours of the incident. Crisis Management Briefing (CMB) was also defined. CMB is usually conducted during ongoing large scale events with the goal of preventing rumors and reducing potential chaos. This policy also includes the use of peer support personnel (Warman, 2010).

The International Association of Fire Fighters (IAFF) provides a guideline for developing critical incident stress programs. The IAFF indicates that the goals of a comprehensive CISM program should be to minimize the emotional impact of critical incidents, increase fire fighters' resistance and resilience to critical incidents, to prevent the harmful effects by working with

trained response personnel, and to prevent chronic effects through follow-up care and employee assistance programs (EAP).

The program the IAFF has developed identifies symptoms, the makeup of team members and how they should be trained, and many of the same stress reducing programs and interventions that coincide with earlier aspects of this literature that have already been identified.

The IAFF program also identifies several basic objectives that should be contained in any comprehensive CISM program:

- A stress management program that is intended to help minimize the stress associated with the fire service.
- Enhancement stress resistance and resilience by participating in all aspects of a fitness and wellness program.
- Consistent use of the Incident Management System (IMS) in order to reduce the stress of specific incidents.
- Operational reviews at the company level.
- Establish clear protocols that identify under what circumstances dictate a CISM response.
- Provide for early assessments
- Provide for regular program evaluation for effectiveness and direction.

Finally, family member involvement is considered by the IAFF as key to help understanding and managing occupational stress. This is viewed as key element in any comprehensive plan (*Guide to Developing Fire Service,* 2001).

In order to summarize this literature review, it is important to mention that there is a large amount of written materials that support the topic of this applied research project. The challenge

was to succinctly extrapolate the necessary information that stayed within the time frame and scope of this project. The author believes that the literature review adequately defined critical incident stress and the associated signs and symptoms. The review also identified key components of critical incident stress management programs and how others have developed such programs.

It is also important to note that an unexpected result of this literature review identified how critical incident stress relates to the development of post traumatic stress disorder (PTSD). The information that was discovered indicated that critical incident stress itself lasts for a relatively short period of time, usually one month. Although the associated symptoms of critical incident stress and PTSD are similar, if they persist beyond one month, the condition is now diagnosed as PTSD.

Procedures

The literature review provided a fundamental understanding as to what is critical incident stress, what are the associated signs and symptoms, what is critical incident stress management, and it provided some general examples of how others have developed critical incident stress management policies and programs.

Since the literature review portion of this project has sufficiently identified critical incident stress and critical incident stress management, the focus of the procedures will be directed at identifying signs and symptoms and how others have developed CISM policies or programs, research questions #2 and #4 respectively.

To effectively accomplish the procedural objectives, a survey instrument was developed and utilized to gather specific information relating to identifying if critical incidents have been experienced, the nature and magnitude of the incident, and how personnel have been affected.

The survey was also intended to gather information in direct relationship to research questions #2 and #4, what are the signs and symptoms of critical incident stress and how others have developed critical incidents stress policies or programs respectively. The final part of the survey was intended to solicit recommendations for developing a critical incident stress policy or program.

The media for the survey was Survey Monkey and the target group consisted of Executive Fire Officers from throughout the country and the group consisted of 65 recipients (Appendix A).

In addition, two interviews were conducted with people who have experienced what can be classified as significant critical incidents that involved widespread destruction and significant loss of life. It needs to be noted that the participants in these interviews have given expressed permission to have their names associated with the results. Sgt. Jon Cooke of the Worthington Fire Department was interviewed on 10/18/2013 (Appendix B). An electronic interview was conducted with Captain Jason Jackson of the Tuscaloosa Fire Department in Alabama on 10/15/2013 (Appendix C).

Results

The target group for the external survey consisted of Executive Fire Officers from throughout the country and the group consisted of 65 recipients. Of that group, 48 (74%) completed the survey which yielded the following results.

Question #1 sought to determine if the respondent's department had experienced an incident that could be classified as a critical incident. The results were as follows:

Table 2: *Survey Question #1: A critical incident can be described as one that there was loss of life, significant property damage, injury or death to a responding firefighter. Has your department experienced an event that could be classified as a critical incident?*

Answer Options	Response Percent	Response Count
Yes	95.8%	46
No	4.2%	2
Not sure	0.0%	0
	answered question	48
	skipped question	0

Question #2 sought to obtain a description and magnitude of the event. The various responses from 40 people, the incidents can be generalized in the following manner:

Table 3: *Survey Question #2: If yes, can you briefly describe the magnitude of the event?*

Answer Options	Response Percent	Response Count
N/A	100.0%	8
LODD (line of duty death)	43%	
Multiple deaths of children	18%	
FF's trapped and injured	1%	
FF Suicides	.5%	
Act of nature death and destruction	.5%	
Crew held hostage at gunpoint	.25%	
Terrorism death and destruction	.25%	
	answered question	40
	skipped question	8

Question #3 sought to identify if any personnel who were involved with these incidents have been diagnosed with critical incident stress or PTSD (post traumatic stress disorder). The results are as follows:

Table 4: *Question #3: If yes, have any of your personnel been diagnosed with critical incident stress or post traumatic stress disorder (PTSD)?*

Answer Options	Response Percent	Response Count
Yes	27.3%	12
No	47.7%	21
Not sure	20.5%	9
N/A	4.5%	2
	answered question	44
	skipped question	4

Question #4 sought to determine the onset of symptoms and types of symptoms responding personnel may have experienced as the result of an identified critical incident. The results can be classified as follows:

Table 5: *Question #4: If yes, are you able to describe what symptoms you or your personnel may have experienced? Also, did the symptoms occur relatively soon, months, or even years later?*

Physical Symptoms	Cognitive Symptoms	Emotional Symptoms	Behavioral Symptoms
None Indicated	Confusion Nightmares Insomnia	Fear Guilt Depression Sadness Stress Tension	Increased Alcohol Usage Self Medicating

The results regarding the onset of symptoms indicated that the symptoms manifested themselves across various time frames ranging from immediately, one month later to several years later.

Question # 5 sought to determine if the respondent's departments had a CISMP in place prior to these events and if they did how they are structured. The results indicated that 75% (31) did have a CISMP in place prior to their events, 25% (11) indicated they did not and 4.5% (2)

were not sure. The structure of their programs varied and they can be summarized as follows. Respondents indicated that some were administered at the state, local or regional levels, while others followed the Mitchell model, utilized peer based counseling, immediate critical incident debriefing (CISD), CISM teams made up of ad hoc members of the department, and the use of employee assistance programs (EAP).

Question #6 sought to determine if departments did not have a CISMP in place prior to a critical incident, has one been since implemented and what the structure of it is. The responses can be summarized as follows. Awareness training was implemented, EAP usage, immediate debriefing programs, defusing programs coupled with on scene support, use of trained counselors, and city sponsored critical incident stress programs that includes 24/7 access to trained personnel.

Question #7 sought to identify what others would recommend to a department that is evaluating the need to develop a CISMP. The recommendations can be summarized as follows: create an open environment that encourages people to come forward and speak about what is bothering them, utilize regional programs, use EAP's, create a peer support based program, and use trained counselors in conjunction with departmental physicians.

The personal interview conducted on 10/18/2013 with Sgt. Jon Cooke of the Worthington Fire Department (WFD) sought to determine what his personal experience was and how it may have had an effect on him during his deployment to New Orleans in the aftermath of Hurricane Katrina. The result of this interview is as follows.

1. Can you briefly describe what you and your crews encountered in the aftermath of Hurricane Katrina? Our initial assignment was to perform a recon of the area. In excess of 10,000 people needed to be rescued. There was vast devastation, we

encountered looters, were shot at, witnessed dogs eating corpses, and we were almost mobbed.

2. How long were you deployed? Seven days while most of the crew members were sent home within 2-3 days due to the magnitude of the situation.
3. Did you notice if there was any immediate operational dysfunction among the crews, in other words did crew members freeze without being able to perform any duties? I did not notice any but the situation was certainly overwhelming.
4. Since this event, have you been or are you being treated for critical incident stress or PTSD? Yes. Now having kids has played a huge part in my treatment.
5. What avenues did you seek for treatment? Initially we had a very poor debriefing process when we returned. There was no follow-up of any kind. In 2006 I went to our EAP provider for another work related issue. In 2010 I was diagnosed with PTSD while undergoing counseling for another personal matter. I am still undergoing treatment and attending counseling.
6. What symptoms did you experience and what was their onset? Are the symptoms still occurring? My symptoms are drastic emotional swings, nightmares, insomnia, fate tempting or almost a death wish, lack of any emotion and marriage problems. Some of these symptoms began to show soon after I returned but everything appeared to crumble in 2010, five years after my return.
7. Do you experience any triggering events? Yes, whenever I hear a helicopter or a thunder storm I am right back down there. I noticed the helicopter trigger not long after I returned home.

8. How would you characterize yourself as you were then as compared to how you are today? I am not even close to being the same person I was before being deployed. I feel as though I am free floating void of emotions.
9. What would be your recommendations for WFD? I believe if we were to establish a critical incident stress management program it should contain a peer support component. I tried to get one started a few years ago but was unsuccessful.

An electronic interview was conducted on 10/15/2013 with Capt. Jason Jackson of the Tuscaloosa, Alabama fire department. It sought to determine what his personal experience was and how it may have had an effect on him during his response in the aftermath of the tornados that struck Tuscaloosa in 2011. The result of this interview is as follows.

1. Can you briefly describe what you and your crews initially encountered in the aftermath of the 2011 tornado? It was a scene that surpassed anything I have ever seen. It was total destruction. I was immediately met at the front of the rig and handed three deceased infants and numerous walking wounded were walking towards the rig and we immediately started triage. The crowd was also becoming hostile because they felt we were not providing care to the deceased infants. The crowd calmed down once the infants were transported away from the scene. I stood on the bumper of the truck and shouted that we needed help with the wounded. The crowd joined in and helped.
2. Did you notice if there was any immediate operational dysfunction among the crews, in other words did crew members freeze without being able to perform any duties? I am extremely fortunate to have the crew I have. We are considered a veteran crew.

One of our medics served in the Marine Corps in Iraq. No one hesitated at all. Each person went straight to work on the wounded.

3. Since the event, are you aware of anyone within your department that has or is being treated for critical incident stress or PTSD? I am unaware of anyone within our department who is being treated for PTSD.
4. If so, are you aware of what symptoms people have experienced and when they started to experienced the symptoms? N/A
5. Has anyone quit their jobs as a result of the incident? To my knowledge, no one has quit their jobs as a result of this.
6. Did your department have a CISMP prior to this event? If not, does it have one now? To my knowledge, we did not have one prior to this event nor do we have one now.
7. If it does have a CISMP, can you tell me that the components are or what the general makeup of the program is? N/A
8. What recommendations would you have for a department that is looking into developing a CISMP? Whatever you do, whatever you develop, always take care of your men first. Give them the tools that they need to accomplish their mission.

Discussion

With the purpose of this applied research project being evaluating whether or not the need existed for developing a Critical Incident Stress Management policy for the Worthington Fire Department, there was a need to determine what is critical incident stress, what are the signs of critical incident stress, what comprises critical incident stress management, and how have others developed similar programs or policies.

Critical incident stress has been succinctly defined by the Occupational Safety and Health Administration (OSHA) as the physical and psychological effects that someone who responds to critical incidents may experience (“Critical incident stress,” 2013). It was further defined by CISM International as an experience that evokes reactions of intense fear, horror, and helplessness. They undermine a person’s sense of safety, security, and confidence ("What is a critical incident?" 2013).

An unintended result, but a significant result of this research project identified the correlation between critical incident stress and post traumatic stress disorder (PTSD). It was identified that the effects of critical incident stress itself are typically short lived, lasting normally up to 30 days. When symptoms last beyond this time frame, the condition is now classified as PTSD and warrants immediate medical help or counseling (“Symptoms of Traumatic Impact,” 2013).

As for the symptoms themselves, James Warman (Warman, 2010, p. 9) has broken down the symptoms into four classifications: physical, cognitive, emotional, and behavioral. Specific symptoms within each classification can be found in table 1. In addition to these symptoms, the literature review also identified what is referred to as traumatic impact and how it affects a person’s ability to function. Traumatic impact begins to take effect as the severity of dangers or threats are intensified or prolonged which begins to have an effect on our biochemical systems. “As the body’s biochemical systems continue to be significantly aroused, the more deeply entrenched the adverse affects become and the mind and body begin to deteriorate in their ability to function normally” ("Traumatic Impact," 2013, p. 2).

The procedural results aimed at identifying what symptoms other department personnel may have developed in the wake of a critical incident were consistent with the literature review

results in that they could be classified much the same way that Warman did (Warman, 2010, p. 9). The one exception was that of the symptoms the respondents identified, none were classified as physical symptoms (Table 5).

Critical incident stress management was also defined as a result of this research indicating that it is a multi-faceted process that include but not limited to education, prevention, and mitigation. This management process should be developed and administered by trained professionals but no one intervention is designed to stand alone. A recommended management model comes from the Texas Department of Health and Human services ("A Primer on CISM," 2013) that consists of 7 core components:

- Pre-crisis preparation
- Disaster or large scale support programs
- Defusing by conducting small group discussions within hours of a critical incident
- Critical Incident Stress Debriefing (CISD) usually provided 1 to 10 days post incident. Also referred to as the Mitchell model which was developed by Jeffery Mitchell
- One on one counseling
- Family crisis intervention
- Follow-up and referral

This project also addressed how others have developed similar programs or policies. The literature review indicated that the Los Angeles County Fire Department has what is considered one of the oldest programs in the country. The core components of L.A. County's program are Critical Incident Stress Debriefing (CISD) and peer support. It also identifies what specific types of incidents require a mandatory and automatic debriefing (Wright, 2011).

An aspect that is included within Largo Florida Fire Department's program that differs from L.A. County's is defusing. Defusing is usually performed within twenty-four hours of the incident and it differs from debriefing because it is relatively brief and usually addresses smaller groups. Largo also incorporates Crisis Management Briefing (CMB) which is usually conducted during ongoing large scale events (Warman, 2010).

The International Association of Fire Fighters (IAFF) has also provided a model for developing a CISMP. The program the IAFF outlines identifies symptoms, the makeup of team members and how they should be trained. Another key aspect is family involvement. The IAFF believes that family member involvement is considered a key ingredient to any comprehensive plan (*Guide to Developing Fire Service*, 2001).

The procedural results aimed at identifying how others have developed similar programs or policies were consistent with the literature review results. Respondents indicated that their respective programs were administered at the state, local or regional levels, while others followed the Mitchell model, utilized peer based counseling, immediate critical incident debriefing (CISD), CISM teams made up of ad hoc members of the department, and the use of employee assistance programs (EAP).

The most compelling information that truly underscores the significance of this applied research project has come from the personal interviews, particularly the interview that involved Sgt. Jon Cooke. The magnitude of what he has experienced and is still experiencing isn't completely evident through his responses but by the visible pain on his face and the pain that was conveyed through his guarded responses. This visible pain along with his interview answers clearly illustrates the magnitude of the event he was exposed to and its life changing effects.

Worthington's personnel or anyone's personnel for that matter, don't necessarily have to be exposed to huge events such as those like Sgt. Cooke and Captain Jackson have experienced in order to run the risk of critical incident stress or PTSD. As the literature review indicated, the compounding effects of many events as compared to one major event can be just as devastating. This is significant information because the compounding effects are what firefighters or anyone else in emergency services typically faces ("Post Traumatic Stress Disorder," 2013, p. 2).

In conclusion, the goal of this project was to determine if there was a need for the Worthington Fire Department (WFD) to develop a critical incident stress management program (CISMP). In order to meet this goal it was necessary to identify what is critical incident stress, what are the symptoms, what is critical incident stress management, and how have others developed similar programs. The author feels that this project has successfully met the objectives of this project which in turn will provide WFD with the necessary data that will assist in determining the need for a CISMP.

There are implications resulting from this research project. Organizationally, the development of a CISMP by WFD will be supporting the United States Fire Administration's strategic plan operational objectives of improving the fire and emergency services' professional status as well as leading the Nation's fire and emergency services by establishing and sustaining the USFA as a dynamic organization. WFD will also be looked upon as a leader in the fire service and it will be providing a vital service to the fire service's most precious commodity, its personnel.

Recommendations

Based upon the literature review, original research, and the data analysis the following recommendations should be considered for development and implementation.

The administration of the Worthington Fire Department should proceed with the development and implementation of a critical incident stress management program that would be incorporated into their standard operating procedures and employee handbook. It is also recommended that the program consists of at least the following components:

- Define what is a critical incident
- Identify what is critical incident stress, what is post traumatic stress disorder and how they relate to each other
- Identify the symptoms of critical incident stress and post traumatic stress disorder
- Define what is critical incident stress debriefing and defusing
- Peer support development
- Identify when participation in the program is required
- Identify the makeup of the CISM team will be and what training is required to be on the teams and how they can be contacted

To assist WFD with the development of this program, it is also recommended that they seek out state or local organizations that have trained personnel who cannot only assist with the development and implementation phase but who can also be active participants within the program.

The last recommendation for WFD is that an education program should be developed and implemented that begin at the recruit or drill school level and continues all the way up through the existing structure of the department.

For future researchers or organizations dealing with this same issue, it is recommended that they begin to educate themselves about at what level of risk their personnel may be exposed

to and to identify the presence and effects of critical incidents their organizations may already be experiencing.

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Table 1

Table 1: *Critical Incident Stress Symptoms*

Physical Symptoms	Cognitive Symptoms	Emotional Symptoms	Behavioral Symptoms
Chills Thirst Nausea Fainting Twitches Vomiting Dizziness Weakness Chest Pain Muscle Tremors Shock Symptoms Profuse Sweating	Confusion Nightmares Uncertainty Hyper-vigilance Suspiciousness Intrusive Images Blame Someone Poor Problem Solving Poor Concentration Increased or Decreased Awareness of Surroundings	Fear Guilt Grief Panic Denial Anxiety Agitation Irritability Apprehension Emotional Shock Emotional Outbursts Feeling Overwhelmed	Withdrawal Antisocial Acts Inability to Rest Intensified Pacing Erratic Movements Change of Social Activity Change of Speech Patterns Loss of Appetite Increased Appetite Increased Alcohol Usage

Table 2

Table 2: *Survey Question #1: A critical incident can be described as one that there was loss of life, significant property damage, injury or death to a responding firefighter. Has your department experienced an event that could be classified as a critical incident?*

Answer Options	Response Percent	Response Count
Yes	95.8%	46
No	4.2%	2
Not sure	0.0%	0
	answered question	48
	skipped question	0

Table 3

Table 3: *Survey Question #2: If yes, can you briefly describe the magnitude of the event?*

Answer Options	Response Percent	Response Count
N/A	100.0%	8
LODD (line of duty death)	43%	
Multiple deaths of children	18%	
FF's trapped and injured	1%	
FF Suicides	.5%	
Act of nature death and destruction	.5%	
Crew held hostage at gunpoint	.25%	
Terrorism death and destruction	.25%	
	answered question	40
	skipped question	8

Table 4

Table 4: *Question #3: If yes, have any of your personnel been diagnosed with critical incident stress or post traumatic stress disorder (PTSD)?*

Answer Options	Response Percent	Response Count
Yes	27.3%	12
No	47.7%	21
Not sure	20.5%	9
N/A	4.5%	2
	answered question	44
	skipped question	4

Table 5

Table 5: *Question #4: If yes, are you able to describe what symptoms you or your personnel may have experienced? Also, did the symptoms occur relatively soon, months, or even years later?*

Physical Symptoms	Cognitive Symptoms	Emotional Symptoms	Behavioral Symptoms
None Indicated	Confusion Nightmares Insomnia	Fear Guilt Depression Sadness Stress Tension	Increased Alcohol Usage Self Medicating

Appendix A

Survey Monkey External Questionnaire

1. A critical incident can be described as one that there was a loss of life, significant property damage, injury or death to a responding firefighter. Has your department experienced an event that could be classified as a critical incident?
    a. Yes
    b. No
    c. Unsure
2. If yes, can you briefly describe the magnitude of the event or click N/A.
3. If yes to question #1, have you or any of your personnel been diagnosed with critical incident stress or post traumatic stress disorder (PTSD)?
    a. Yes
    b. No
    c. Not sure
    d. N/A
4. If yes to question #3, are you able to describe what symptoms you or your personnel may have experienced? Also, what was the onset of the symptoms?
5. Did your department have a critical incident stress management program prior (CISMP) to these events? If yes, can you briefly describe its components or what type of model it is?
    a. Yes
    b. No
    c. Not sure

6. If no to question #5, has your department implemented a CISMP since this event or events? If so, can you briefly describe the components of the program?
    a. Yes
    b. No
    c. Not sure
    d. N/A
7. What would your recommendations to a department that is evaluating the need to develop a CISMP?

Appendix B

Interview Questions for Sgt. Jon Cooke, Worthington Fire Department

1. Can you briefly describe what you and your crews encountered in the aftermath of Hurricane Katrina?
2. How long were you deployed?
3. Did you notice if there was any immediate operational dysfunction among your crews, in other words did crew members freeze without being able to perform any duties?
4. Since the event, have you been or are you being treated for critical incident stress or PTSD?
5. What avenues did you seek for treatment?
6. What symptoms did you experience and what was the onset?
7. Do you experience triggering events?
8. How would you characterize your personal self prior to the event as compared to how you are today?
9. What would be your recommendations for WFD?

Appendix C

Electronic Interview Questions for Capt. Jason Jackson, Tuscaloosa Fire Department

1. Can you briefly describe what you and your crews initially encountered in the aftermath of the 2011 tornado?
2. Did you notice if there was any immediate operational dysfunction among the crews, in other words did crew members freeze without being able to perform any duties?
3. Since the event, are you aware of anyone within your department that has or is being treated for critical incident stress or PTSD?
4. If so, are you aware of what symptoms people have experienced and when they started to experienced the symptoms?
5. Has anyone quit their jobs as a result of the incident?
6. Did your department have a CISMP prior to this event?
7. If it does have a CISMP, can you tell me that the components are or what the general makeup of the program is?
8. What recommendations would you have for a department that is looking into developing a CISMP?