

Exploring the Development of a Collaborative Mental Health Support Response Plan for
Harris County First Responder Agencies

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Certification Statement

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

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A handwritten signature in black ink, consisting of a large, stylized capital 'P' followed by a series of loops and a final horizontal stroke.

Abstract

Harris County, Texas experienced its fourth natural disaster in three years when Hurricane Harvey struck the Texas coast, August 25, 2017. Initially, the storm made land fall in Port Aransas, Texas, located southwest of Harris County in Nueces County. When slow moving Hurricane Harvey retreated into the Gulf of Mexico, the outer bands trailed leaving additional rain to paralyze the area until the storm moved on three days later. Unfortunately, Harris County first responders experienced abnormal working conditions and personal losses, disrupting mental and behavioral health, which impacted performance of duties. When these mental and behavioral health issues surfaced, it was evident that the various Harris County first responder agencies did not plan to address these issues with their impacted employees. The problem is that the Harris County first responder agencies have not planned for first responder mental health issues following a natural disaster. The purpose of this research project is to design a conceptual mental health support response framework for Harris County first responder agencies to utilize following a natural disaster. The research questions are: (a) Did first responder agencies plan to provide mental health support following a natural disaster? (b) What conditions did first responders experience while responding to a natural disaster? (c) What are the key elements to a mental health support response model following a natural disaster? This research was conducted using action research methodology. A literature review was conducted from academic journals, textbooks, and the Internet. A survey was designed and delivered to fire service, law enforcement, and emergency medical service leaders. The results of this research indicated that a conceptual mental health support plan

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framework for first responders is warranted. Anchored by Mental Health Professionals, Peer Support, and Clergy overlapped by Initial Support, RIT, and Long Term Support.

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Introduction

Harris County, Texas first responder agencies are becoming all too familiar with responding to natural disasters. In the last three years, Harris County has experienced four wide spread flooding events, each extending into multiple operational periods. Three of the last four flooding events activated Type 3 Incident Management Teams due to incident complexity and multiple divisions established around the county. The most recent flooding event was disguised as the infamous Hurricane Harvey. Harvey's response was complex, extended over several operational periods, overwhelmed local and state resources, and required national resources for effective, collaborative, and safe incident management. The Federal Emergency Management Agency (FEMA) has defined Harvey's national response as a Type 1 incident within the National Incident Management System (NIMS) curriculum (Department of Homeland Security, 2011).

Thousands of first responders reported to work on Friday, August 25, expecting to work their regular scheduled shift. Unfortunately, most first responders were not properly relieved for multiple days due to flooded streets, creeks, and rivers exceeding channel capacity, and thousands of calls from citizens requesting evacuation or rescue holding in Computer Aided-Dispatch (CAD) system. Harvey personally effected first responders in such a manner as partially or totally flooded homes and vehicles, partially or totally flooded stations and response vehicles, working long hours with taxing workload and no rest periods, multiple traumatic exposures, and unusual work expectations. In essence, first responders are both primary (directly affected) and secondary (observing other affected) victims of Harvey, (Alexander & Klein, 2009).

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The problem is the Harris County first responder agencies have not planned for first responder mental health issues following a natural disaster. The purpose of this research project is to design a conceptual mental health support response framework for Harris County first responder agencies to utilize following a natural disaster. The researcher used action research methodology when conducting the analysis into this topic.

The research questions that were developed are:

1. Did first responder agencies plan to provide mental health support following a natural disaster?
2. What conditions did first responders experience while responding to a natural disaster?
3. What are the key elements to a mental health support response model following a natural disaster?

The research addresses the National Fire Academy (NFA) Executive Fire Officer (EFO) year 3 course, Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) topic of Vulnerability Assessment Factor 4: social aspects, emergency personnel safety. This research will examine improving and collaborating first responder mental health support networks in Harris County, Texas. The research will examine conditions first responders experienced during natural disasters and analyze the capacity of resiliency and overcoming traumatic incidents and personal difficulties. The process to establish a mental health support network will be researched to identify best practices, trusted key elements, and overcoming obstacles. Finally, the researcher will

examine key elements to successful first responder mental health support plan framework in regards to effectiveness and success.

Background and Significance

Harris County, located in southeast Texas, covers 1,200 square miles, and is comprised of 34 cities, 55 fire departments, 124 law enforcement agencies outside of the City of Houston (HCOHSEM Annual report 2015, p.9), and serves 2,500,000 citizens.

When the author refers to Harris County throughout the paper he is excluding the City of Houston representations. The county has 27 political subdivisions, 32 emergency service districts (ESDs) providing either fire service, emergency medical service (EMS) or fire and EMS. Also, 10 of Harris County's 34 cities include multiple counties within city limits.

The Harris County Fire Marshal's Office provides fire prevention, fire investigation, regional Hazardous Materials team response, and Type III Incident Management Team coordination for 45 of 55 fire departments during Emergency Operations Center (EOC) activation. Ten cities within Harris County staff and operate their own EOC coordinating for their respective cities, sharing information with the county. The remaining first responder agencies report directly to the county EOC. These dynamics often strain and stress natural disaster response.

There approximately 7,000 sworn law enforcement officers in Harris County within the District Attorney's Office, Sheriff's Office, Constable's Office, Metropolitan Transit Authority, various State police agencies, school district police agencies, college and university police agencies, and city police agencies. These agencies serve civil and criminal warrants, provide patrol operations, homeland security and emergency

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management functions, traffic enforcement, criminal investigations, and facility and premise security.

In addition to law enforcement, fire departments within Harris County have approximately 3,500 members in professional, volunteer, and combination agencies. In 2016, these members responded to approximately 260,000 emergency calls.

Approximately 78 percent of the responses were emergency medical service requests in nature. Additional services provided include terrorism preparedness, urban search and rescue, hazardous materials response, water rescue, and public education.

Harris County is unique in that population density within the county is increasing at a higher rate than within the city limits of Houston. This expansion of population within the County creates increased demands for service from first responders, increasing exposure to critical incident stress daily. However, first responder populations have not increased at the same rate as the general population of the County.

In 2017, the Harris County metropolitan area hosted the National Football League's Super Bowl 51 in February, slow moving Hurricane Harvey made landfall on two different dates in August, and the Houston Astros advanced through Major League Baseball's playoffs in October to win the 2017 World Series in November. Each event lasted between four and ten days, affecting first responders on-duty and off-duty, requiring adjusted and extended work periods, increasing demands of private safety and security, providing little recovery time between work periods, and increasing response request. These events increased stressors to abnormal conditions in clusters on first responders. In preparation for two spotlight sporting events, and the annual Hurricane season, Harris County first responder agency administrators spent millions of dollars on

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response equipment, and in-service training. To the author's knowledge, no money was used to design, develop, or implement a comprehensive mental health response plan preparing for a man-made or natural disaster.

On August 25, 2017, Harris County first responders began experiencing the weather effects of Hurricane Harvey. By midnight August 27, approximately 10,000 calls for service had come in since the beginning of the storm. Over the four-day period, Harvey (2017) devastated Harris County with the maximum rainfall total of approximately 48 inches occurring in the north central area of the County. On average, Harris County receives an annual rainfall total of approximately 50 inches in a typical year (Hurricane Harvey, 2017).

During Hurricane Harvey, first responders experienced response vehicles and apparatus submerged in floodwaters, law enforcement office buildings and fire stations partially flooded causing uninhabitable conditions, and unsuccessful rescues resulting in citizen deaths. Thousands of calls for service overwhelmed computer aided dispatch systems and caused them to crash on multiple occasions. Swollen creeks, rivers, and flooded highways and streets disconnected off-duty first responders from reporting to duty. In addition, those same floodwaters prevented on-duty first responders from accessing safe, dry places of refuge.

Many first responders attempted to conduct water rescues without the proper water safety gear. During water rescues, unprotected first responders were exposed to contaminated floodwaters containing chemicals and hazardous materials from flooded vehicles. Waterborne and communicable diseases entered the floodwaters from disabled human waste systems (Johnson, 2017).

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Within a week of Harvey's landfall, two law enforcement officers and one firefighter, friends of the author, were hospitalized for three days or more, experiencing various illnesses or infections contracted while working in contaminated floodwaters with improper personal protective equipment. Each first responder mentioned to the author their increased reluctance to return to work and inability to adequately perform their duties assisting with Harvey recovery without proper personal protective equipment. These first responders ultimately fear for their personal safety and security. Indicators described are clear signs of post-traumatic stress (PTS) and cause concern of the short-term and possible long-term mental health effects to first responders following Hurricane Harvey.

Harris County first responders recovered 18 of the 36 Hurricane Harvey storm-related deaths between August 26 and September 15, 2017 (HCIFS, 2017). Approximately 500 first responders suffered personal property losses including partial or complete home flooding and vehicle damage or total loss. Each first responder who reported to work experienced abnormal extended work hours with a taxing workload. In addition, first responders were expected to perform tasks which they had never executed before. Combining these dynamics impacts the psychological and physical well-being of first responders and their ability to perform at the elevated levels that citizens and administrators expect.

Mental health professionals and peer support members expect a large percentage of first responders to develop short-term post-traumatic stress (PTS) symptoms such as sleeping difficulties, increased alcohol use, and irritability (Benedek, Fullerton, & Ursano, 2007). One Harris County first responder agency expects more than 10% of their

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members to screen positive for PTS. Benedek, Fullerton, & Ursano (2007) mentioned, after the tsunami in Southeast Asia in 2004, that 25% of relief workers displayed symptoms of Post-Traumatic Stress Disorder (PTSD). As such, it is expected that over 500 first responders will display PTS symptoms more than a month after Hurricane Harvey.

Harris County first responder agencies range in population from approximately 20 members to over 4,000 members. Considering these populations, few agencies can support internal mental health resources including: chaplains, peer support teams, mental health professionals, physiologist, and employee assistance programs (EAP). First responders with fewer mental health support resources tend to be more vulnerable to mental health issues (Alexander & Klein, 2009). Most agencies do not have the budget or membership to support those robust resources (Riddle, 2017). These agencies rely on external resources: American Red Cross, Emergency Chaplain Group, mutual-aid agreements, third party organizations, contracted peer support organizations, International Association of Fire Fighters Peer Support team, Mental Health Professionals associated with benefit packages, and contracted EAP sources. The pitfall to external resources are the unknowns including lack of trust between the responder and intervention provider, potential lack of appropriate crisis intervention training, availability to responder at request, awareness to self-initiate by the first responder, and responding to the crisis within a reasonable time.

First responders are a critical resource and agencies must address the obstacles to overcome the lack of resources and address techniques to achieving first responder mental health stability. First responders are Harris County's most precious resource; and

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agencies must prioritize the establishment of a collaborative, trusted, reliable, and recognizable mental health support plan in effort to provide the highest level of citizen protection. Following natural disasters, agencies must execute a collaborative plan to utilize resources providing an established, consistent, efficient, and effective mental health support effort. Buyer beware, however, there is no one size fits all response.

The goal of this research is to meet the goals and objectives of the National Fire Academy (NFA) Executive Fire Officer Program (EFOP) Executive Analysis of Fire Service Operations in Emergency Management (EASOEM) course. Specifically, to address the vulnerability significance of first responder safety, focusing on mental health impact and recovery following a natural disaster. This research also meets the goals of the United States Fire Administration (USFA), Goal 2: Promote response, local planning and preparedness for all hazards, and Goal 3: Enhance the fire and emergency services' capability for response to and recovery from all hazards (United States Fire Administration [USFA], 2014, p. 1). Other goals of this research are to meet one of the National Fallen Firefighters Foundation (NFFF) 16 firefighter life safety initiatives, number 13, Psychological Support: "firefighters and their families must have access to counseling and psychological support (n.d.)." In addition, to deploy mental health support teams following natural disasters ensuring first responders are aware such services are immediately accessible as described in NFPA 1500 Standard on Firefighter Health and Safety (2015).

Literature Review

The sources reviewed for this research provided an in-depth understanding of first responder mental health issues, mental health peer support programs, and interventions

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used for recovery. Developing a mental health support plan will take into account potential roadblocks, adhering to a timeframe to optimize effective interventions, and avoid re-traumatizing the first responder (Alexander & Kline, 2009). A literature review was conducted using Internet searches, textbooks, and journal articles in this applied research project. The author currently serves in executive leadership position on a regional Critical Incident Stress Team and worked in the Emergency Operation Center (EOC) during Hurricane Harvey in an Incident Management Team capacity. Two mental health professionals specializing in crisis response or post-traumatic stress disorders (PTSD) were consulted regarding design, development, and implementation of a mental health support response plan.

When natural disasters like the Tax-Day flood (April 19, 2016) or Hurricane Harvey occur, the first incident stabilization priority is citizen and first responder safety (Hoffman, 2017). However, most first responders took the oath office to serve the citizens and their communities, frequently subjecting their own safety to save the people they swore to protect (Zaragoza, 2015). Being the “Hero” is beneficial and rewarding affair (Zaragoza, 2015), but with these noble acts come great sacrifice disguised as personal and professional stressors (Riddle, 2017), each exposure increases risk factors similar to depression, previous traumatic events, and prior unresolved mental health issues (Baylor, 2017).

First responder agencies spend millions of dollars annually on training, purchasing equipment, and reviewing significant event case studies preparing for the next natural disaster. These efforts are lead to prepare and equip first responders to effectively and efficiently perform a variety of task when responding and mitigating an incident.

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Administrators expect the training and resources to provide a return on investment for many years to the citizens they serve. Historically, training and preparing resources for the negative psychosocial effects first responders experience professionally or personally during a natural disaster response are unaddressed. Furthermore, the first responder culture believes that negative psychosocial effects experienced following a traumatic event are a part of the job. In addition, first responder mantra of gallantry typically discounts, ignores, or compartmentalizes potential mental health issues (Zaragoza, 2015). Agency administrators and directors support this belief by simply failing to include mental health support programs in the agency budget or believing that overarching Employee Assistant Programs (EAP) provide a “one-stop shop.”

Mason, Andrews and Upton (2010) stated that are many variables that could explain such wide variations of the approximate number of impacted first responders. Identifying who was exposed to the effects of the natural disaster and to what level of impingement is not easy (Mason, Andrews, & Upton, 2010). Many first responders received damage to their residence but did not notify their employer, labor group, or request assistance from resources offering assistance.

Everly and Mitchell (2008) define a critical incident as any traumatic event, in which stress factors potentially cause disruption or interference with a first responders’ normal ability to function. A simple description of this experience is that one is “powerless in the face of an event” (Adler-Tapia, 2013). Examples of these unusual events for citizens, however, are normal daily experiences for first responders (Adler-Tapia, 2013). Examples of some of these experiences that would be abnormal to the typical citizen yet are somewhat typical of first responder work responsibilities include

officer-involved shootings, line of duty deaths, failed rescue attempts, natural disasters, colleague suicides, and violent or unnatural deaths of a citizen. Additional examples of personal life events are marital problems, financial difficulties, or the loss of a loved one. Also, symptoms from one experience may intensify or stretch out symptoms from another experience, this creates intensified mental health issues if left without intervention (Mason, Andrews, & Upton, 2010).

“A psychological crisis is a response to a critical incident wherein the individual’s psychological balance has been disrupted. There is, in effect, a psychological disequilibrium. This disequilibrium results because the individual’s usual coping mechanism have failed” (Everly & Mitchell, 2008, p. 5). Examples of normal human reactions to critical incidents are loss of sleep, lack of concentration, anxiety (Scutti, 2017), fatigue, and depression, questioning personal safety, or irritability. The psychological crisis remains a crisis until a resolution is found (Mitchell, 2010) and, left untreated, can result in lost time at work, burnout (Hokanson & Wirht, 2010), suicide, physical health conditions, and cancer (Carmichael, 2016). Furthermore, Alexander and Klein (2009) reported in one case study that they discovered, following repeated traumatic exposure, a group of EMS professionals experienced decreased abilities to cope.

Following a traumatic event, historically, first responders experience two disorders Acute Stress Disorders (ASD) and Post-Traumatic Stress Disorders (PTSD) (Everly & Mitchell, 2008). ASD arrives a couple of days after the incident lasting up-to 30 days, displayed with the following symptoms: numbing, flashbacks, avoidance of things associated with the traumatic event, and anxiety. If someone suffering with ASD is

left without intervention, ASD can ultimately manifest into PTSD (Everly & Mitchell, 2008) displayed with the following symptoms: intrusive thoughts and dreams, constant avoidance, and consistent irritability. However, additional research discovered by LaFauci, Schutt, and Marotta (2011) noticed that most first responders experience only a mild diagnosis of PTSD.

Early mental health support interventions are a vital step to recovering from psychological crisis resulting from a critical incident. Everly and Mitchell (2008) define “crisis intervention” as the initial mental health care support to reduce symptom stimuli and stabilize the first responder. This method of intervention should not be confused with professional mental health care (Everly & Mitchell 2008), in fact “Psychological First Aid (PFA)” avoids clinically classifying first responders and addresses immediate nutritional and familial needs (Alexander & Klein, 2009). Informal intervention is a systematic and organized approach to reduce distress and improve function in the first responder (Mitchell, 2010). Military psychiatric personnel use a system of principles to distinguish the difference between formal and informal intervention with success: Proximity of services needed, Immediacy of intervention to the event, and Expectancy to meet the needs of the stressor (PIE) (Everly & Mitchell, 2008; Salmon, 1919; Artiss, 1963).

First responders often do not seek interventions due to the perceived barriers within their communities (Riddle, 2017). Those barriers include access to trusted interventionist, the fear of becoming labeled by colleagues, job security, affordability, and fear the intervention will not work. Following a natural disaster similar to Hurricane Harvey, many first responder agencies inherently assume personnel recall mental health

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support resources and expect them to utilize them similar to that during normal working operations. Most first responders were concerned about personal losses that effected their family's safety and mental health (Polk & Mitchell, 2009). In addition, they were concerned about colleague personal losses and focused efforts to providing clothing, replacement vehicles, and repairing homes (Riddle, 2017). Once these immediate critical needs were temporarily or permanently repaired, mental health issues began surfacing. However, the extreme unexpected circumstances first responders experienced require a robust effective and efficient plan that delivers consistent quality interventions with sufficient resources.

A reliable mental health support program contains elements that improve a member's psychosocial ability to enter a normal state in preparation for the next critical incident. Those collective elements are "stabilization, mitigation, facilitation, restoration, and identification" (Polk & Mitchell, 2009). Most first responders effected by a critical incident can recover to a normal mental health state providing interventions based on these elements are made available and utilized. It is important to recognize, however, that these elements are not powerful enough to cure a first responder's mental disease (Polk and Mitchell, 2009).

Collaborating resources to effectively and sufficiently support mental health issues improves the first responder's wellbeing and health (Carmichael, 2016), increases work performance, reduces workers compensation claims (Hokanson & Wirth, 2010), and secures the overall safety environment and culture of each agency (Riddle, 2017). Furthermore, first responders are better prepared and mentally able to respond and protect their communities going forward (Riddle, 2017).

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Developing a strategic plan for a large-scale incident provides a useful roadmap for a mental health support response plan (Mitchell, Everly, & Clark, 2006). Everly & Mitchell (2008) noted that collaborative efforts to share the same mission in continuity generates efficient and effective intervention results. Mitchell, Everly, & Clark (2006) suggest beginning planning for a natural disaster with the initial steps of Maslow's hierarchy of needs. Then transition into the "Five-T Planning Formula" described within the following components: "Target, Type, Timing, Themes, Teams" (Polk & Mitchell, 2009). The components focus on the population needing intervention, the proper intervention to be delivered, optimum time for acceptance of invention, effects impacting responders, and the available resources responding (Mitchell, Everly, & Clark, 2006).

Simplifying this process could lead to higher acceptance rate and an increased usability. Developing a mental health support plan framework will provide a user-friendly document creating a flow path that is easy to integrate into the planning process. In addition, providing a plan illustrated as a "plug-and-play" framework allows mental health support resources to easily identify where they fit in and first responders can expect what resources are available.

The literature review revealed that first responders are often subject to unimaginable conditions during a natural disaster. Experiencing these conditions professionally and/or personally increases the first responder's vulnerability to impactful stressors leading to the inability to cope with challenging incidents. Regardless of these conditions and the symptoms first responders display following a critical incident, many agencies do not have a natural disaster mental health support plan. The use of external agencies is unpredictable and untrustworthy. Harris County first responder leadership

need to collaborate mental health resources to effectively and efficiently address mental health abnormal symptoms displayed following a natural disaster.

The literature review provided a strategic response plan formula that seems clunky and difficult to define with available resources. In addition, although this comprehensive strategic plan is very specific, it does not include an easy-to-fill document, similar to the standard ICS forms, which can be utilized in a time sensitive incident similar to a natural disaster. The researcher needs to refine the strategic response plan formula into a simplified mental health support plan framework, increasing the frequency of utilization and collaboration.

Procedures

This applied research project (ARP) sought to examine whether or not Harris County first responder agencies utilized a mental health support plan to strategically deliver crisis interventions following natural disasters. The researcher hypothesizes that developing a mental health support plan network, which utilizes resources in a countywide collaborative effort, allows all first responder agencies to reduce short-term mental health reactions in first responders following natural disasters. The method of inquiry included a review of journal articles, textbooks, Internet searches, mixed-method survey, and a personal interview to gather information. The following three questions were developed to provide direction related to developing a mental health support plan for Harris County first responder agencies.

1. Did first responder agencies plan to provide mental health support following a natural disaster?

2. What conditions did first responders experience while responding to a natural disaster?
3. What are the key elements to a mental health support response model following a natural disaster?

The initial literature review was conducted at the Houston Fire Department resource library located at the Val Jahnke Training Facility (VJTF) in October 2017. The VJTF library provided textbooks relating to Critical Incident Stress Management (CISM) and Crisis Intervention strategies and tactics. Further research was conducted on-line from September through December 2017 utilizing keywords “peer support”, “mental health support”, “Hurricane Harvey mental health issues”, and “crisis intervention response plan” in the National Fire Academy’s “Special Collection: Executive Fire Officer Program applied research projects database”, Google scholar database, and Texas A&M University’s “Libcat” search engines. These searches produced websites, journal articles, questionnaires, newspaper articles, and books.

Information discovered through the literature review lead the researcher to develop the survey questions as well as previously formulated questionnaires. Also, during the literature review, several limitations were discovered. There are many sources regarding peer support, policy and guideline development, PTSD, behavior health resources, however it was difficult to find a mental health support response plan. Mitchell and Everly (2008) stated that a strategic response plan for first responders following a natural disaster needed further exploration and research. Another limitation was finding information regarding agencies collaborating on peer support, mental health support, EAP, and psychological resources for crisis

intervention following a man-made or natural disaster. There were many sources regarding mental and behavioral health support efforts for citizens, but nothing focusing on first responder populations.

An instrument was developed by the researcher then distributed through the website Survey Monkey. The instrument consisted of 10 questions, 6 questions inquired about mental health support, and 4 questions inquired about demographics. The researcher's colleague at the Harris County Fire Marshal's Office randomly chose forty-five Harris County first responder's emails comprised of all ranks within equal distribution to Law Enforcement, Fire Service, and Emergency Medical Service providers. The researcher assumed all email recipients were engaged in response operations during Hurricane Harvey. On November 23, 2017, an email containing a link to the survey as well as an explanation of the research was sent to the random distribution list. Ten responses were initially received within two weeks, a reminder email was sent on December 7, 2017, which harvested five additional responses by the closing date, December 23, 2017. The response rate was 33 percent. The goal of the questionnaire was to address research question 1. There were two limitations to the distribution of the questionnaire. The first limitation was the method of questionnaire distribution, not all recipients read all their emails or are familiar with the researcher. The second limitation is most first responders have multiple jobs and have membership in two different first responder professions within Harris County.

The responses collected from the questionnaire will be used to analyze the need to develop a conceptual collaborative mental health support plan. Six questions focused on the respondent's awareness of mental health resources, if they were affected by a

natural disaster, and if their respective agencies planned to provide mental health support following a natural disaster. Four questions focused on respondent's demographics determining agency resources and personal mental health protective measures. Six of the ten questions included additional supportive inquiry providing qualitative responses.

Results

The results of this ARP were gathered from a literature review and a questionnaire distributed to Harris County first responders. The questionnaire and data collected are provided in Appendix A. The research methods that were used in this project were action and descriptive. These methods were used to address three research questions:

1. Did first responder agencies plan to provide mental health support following a natural disaster?
2. What conditions did first responders experience while responding to a natural disaster?
3. What are the key elements to a mental health support response model following a natural disaster?

Research question one was covered in the questionnaire with questions 3) What resources are available to you in support of mental health recovery? The answer choices are as follows and the participants were told to "select all that apply" (Employee Assistance Programs, Critical Incident Stress Management Teams, Peer Support Teams, Agency Mental Health Professional, Agency Chaplin, Pastoral Care Team, None of the above); 4) Do you know what to do to care for mental health recovery?; 5) Did your

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agency develop a formal mental health support response plan prior to a natural disaster?; and 6) Did your agency develop a formal mental health support response plan following a natural disaster? The intent of these questions were to establish awareness of mental health support resources and whether or not first responder agencies were prepared to support first responder mental health recovery.

Questionnaire Question #3 asked “What resources are available to you in support of mental health recovery?” The answer choices are as follows and the participants were told to “select all that apply” (Employee Assistance Programs (EAP), Critical Incident Stress Management (CISM) Teams, Peer Support Teams, Agency Mental Health Professional, Agency Chaplin, Pastoral Care Team, None of the above). The respondents answered with confidence: EAP 80%, CISM Team 73%, Peer Support Team 40%, Agency Mental Health Professional 33%, Agency Chaplin 40%, Pastoral Care Team 33%, and none of the above 0%.

Questionnaire Question #4 asked, “Do you know what to do to care for your mental health recovery?” The majority of respondents, 80% answered yes they know what to do for their mental health recovery. Twenty percent felt like they did not know what to do for their mental health recovery.

Questionnaire Question #5 asked, “Did your agency develop a formal mental health support response plan prior to a natural disaster?” The majority of the respondents, 87% answered “No” their agency did not have a formal mental health response plan prior to a natural disaster. Thirteen percent answered their agency had a formal mental health support response plan prior to a natural disaster. Only one (7%) Head of the Agency

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answered their agency had a formal mental health support response plan secured prior to a natural disaster.

Questionnaire Question # 6 asked, “Did your agency develop a formal mental health support response plan following a natural disaster?” The majority of the respondents, 67% answered “No” their agency did not develop a formal mental health response plan following a natural disaster. Thirteen percent responded, it was “Unknown” if their agency had developed a formal mental health response plan following a natural disaster. However, 20% responded their agency developed a formal plan following a natural disaster. Respondent #1, a head of agency, stated their “Human Resources” created the plan. And respondent #6 stated their “Planning personnel along with Administrative Support” created their plan. Furthermore, respondent # 14 stated their “CISM” personnel created their response plan.

Research question two was covered in the questionnaire with questions one and two. Question #1 asked: Have you been mentally impacted by a natural disaster? The intent of this question is to identify the number of respondents affected mentally by the effects of a natural disaster. Of the 15 respondents, twenty percent indicated that they were mentally impacted by a natural disaster. Additionally, if respondents answered with a “yes” they were given the opportunity to provide details “i.e. Invisible wounds, emotional scars, etc.” Respondent #7 stated: “After Harvey I had one month where I would constantly wake up and check TV news, weather, dispatch status and monitor radio traffic. Most of my Command Staff and I lost track of day and time for several months.” Respondent #9 stated “Just general high stress.” Respondent #12 stated: “Stress of work slowing down.” Question #2 asked: Have you experienced personal loss during a natural

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disaster? Additionally, if respondents answered with a “yes” they were given the opportunity to provide details “i.e. property damage, total loss of property, death of family member or friend to the effects of the disaster, etc.” Twenty percent of the respondents experienced some level of personal loss during a natural disaster.

Respondent #1 stated “Home damage. Elderly parent displacement” Respondent #6 stated “Childhood collectables destroyed” Respondent #12 provided “Work” The intent of these questions to establish if first responders were affect by a natural disaster.

Questionnaire questions #7-10 were utilized to collect demographics on participants. Question #7 asked: “What is your marital status?” this question important because research has shown that “Married/Living as Married” is an important factor for a first responder to recover from a critical incident. Ninety-three percent of the respondents answered as “Married/Living as Married.” The other respondent answered as “widowed.” Question #8 asked: “Which of the following first responder groups do you have membership in? (Select all that apply) Fire Service, Law Enforcement, Emergency Medical Service.” Eighty-six percent of the respondents are “Fire Service” personnel, 40% “Law Enforcement” personnel, and 47% “Emergency Medical Service” personnel. Question #9 asked “What the current rank you hold?” and the choices ranged from “Firefighter/Deputy/Officer/In-charge” to “Director, Fire Chief, Police Chief, Constable, Head of the Department” with 33% as the last category. Question #10 asked: “What is the approximate total number of employees of your agency?” The responses ranged from “1-50” to “1001-5000” with 47% of the responses arriving in the “101-250” category.

Research question three was discussed in the literature review, the researcher discussed the collective elements of a mental health support program which are important

mechanisms improving a first responders psychological ability to return to pre-incident capacity.

Discussion

First responders are the most valuable resource and assets to Harris County. There are over 180 different first responder agencies within the County. First responder agencies typically operate in a silo, and rarely collaborate on day-to-day operations. However, they frequently respond on a united front to large-scale incidents and natural disasters. Unfortunately, there are no known collaborative efforts to protect member mental health support or recovery. Each agency acknowledges they have several employee well-being support programs.

The research completed for this project indicates the need to develop a mental health support response plan framework allowing Harris County first responder agencies to collaborative utilize resources in effort to improve first responders' psychosocial abilities following a natural disaster.

Suggested strategic response plans to large-scale disasters include the five T's (Mitchell, Everly, and Clark, 2006), which were mentioned in the literature review. This plan defines the following: identifying the hazards, narrowing the population, formulating strategic intervention, specifying care delivered, checking the status of resources, preparing peer support members, engaging peer supporters periodically, and collaborating prior to the incident (Mitchell, Everly, & Clark, 2006). Everly and Mitchell (2008) stated that focused mental health support efforts should be combined and strategically injected for the greatest acceptance, ultimately yielding a powerful response.

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Also, these plans target pre-incident activities, however a collaborative plan to utilize appropriate and credentialed personnel following a natural disaster is missing.

The Texas Department of State and Health Services (DSHS) (2016) list on their website appropriate trained and credential peer support groups, mental health professionals, and other resources to utilize following a critical incident. Also, their website states they “Provide a model of interagency cooperation in Texas” (DSHS, The Goals of the Network are to, bullet point 5). However, upon further review, the DSHS website content does not contain a visual model or describe one and the mechanism of that model.

One topic of discussion is as follows: when is the appropriate time and location for an Incident Management Team (IMT) or a Unified Command (UC) to integrate a mental health support into the incident action plan (IAP). What function or division is appropriate location for integration? The National Incident Management System (NIMS) Incident Command System (ICS) recommend assigning the CISM team under the Medical Unit Leader within Logistics. However, Everly and Mitchell (2008) agree with the “United States Coast Guard (2001), Due to the importance of the mental well-being of all response personnel and the highly specialized nature of the program, the CISM specialist would be assigned to the Command Level of the organization and report directly to the IC or UC (p. 82)” (p. 67). The CISM specialist will advise the Liaison Officer on specific resources and capabilities (Everly & Mitchell, 2008). However, to address the needs and relate to multiple first responder agencies, the CISM specialist should assume broader views and, making a minor adjustment, rename the position to a Mental Health Support Specialist.

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Taking a global approach upon deployment to a natural disaster, this will allow a Mental Health Professional, CISM Specialist, Crisis Interventional Specialist, or Clergy to assume the Mental Health Support Specialist position. Any mental health support resources arriving to support first responders will check in with the support specialist and then report to the Medical Unit Leader within the Logistics Section. Mental health support request from any of the four functions will be guided through the Mental Health Support specialist coordinating with the Liaison Officer (Everly & Mitchell, 2008). Limiting confusion, remaining on task, and focusing span of control is achievable following this guidance.

Everly and Mitchell (2008) mention during deployment to include a documentation specialist to assist with completing the appropriate documents for the mental health support resources. Including a documentation specialist allows the Mental Health Support specialist to ensure multi resource credibility, accountability, effective and efficient organizational development, as well as a systematic utilization of resources. Confirming appropriate licensure, specific critical incident training (Everly & Mitchell, 2008), adherence to national standards, and crisis intervention proficiency is paramount to protecting first responders (Polk & Mitchell, 2009). Achieving a tactical advantage to a first responders mental health support provides a proactive mechanism displaying empathy and compassion.

Including a Mental Health Support specialist in the command structure allows for attendance at Command and General Staff meetings and Planning Meetings gaining valuable intelligence. During a wide spread natural disaster a large population of first responders can be overwhelming for a mental health support team. Gaining specific

information on the impacted areas and effected personnel (Polk & Mitchell, 2009) is critical to supporting first responder mental health recovery.

Creating access to mental health support is critical for first responders' recovery following a natural disaster (Everly & Mitchell, 2008). Developing a mental health support plan framework fast tracks the incorporation into the next natural disaster IAP, familiarizes the IC with mental health support specialist and personnel, and accelerates first responder mental health recovery.

Recommendations

Everly and Mitchell (2009) provide a list of principles for CISM team personnel to follow while preparing for and operating during a natural disaster: 1) Never self-dispatch to an incident, 2) always provide appropriate credentials, 3) respond with a designated leader, 4) function within ICS, 5) ensure operating within an IAP, 6) respond to the event with a designated purpose, 7) do not engage in therapy, 8) properly analysis the situation, 9) establish a response strategy, and 10) ensure interventions are strategically delivered.

Preparing and planning are the cornerstones of natural disaster incident response, allowing for additional resource requests, forecasting strategic and tactical objectives, providing safety concerns, and estimating demobilization priorities. Forecasting the demobilization of resources during an incident should be initialized during the first full operational period. As the IC addresses the demobilization plan and addresses the priority of resource release, in the current system the IC must rely on incident response personnel feedback or prior established knowledge to determine whether mental health support care should be delivered prior to final release. Several months into the recovery phase it is

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common for first responders to experience PTS, it is important to establish a long-term first responder mental health support plan.

As the Mental Health Support specialist and IC establish the mental health support plan, it requires determining goals, which protect the first responder from further adverse effects. Additional efforts include introducing mental health support services and building trust between first responders and mental health support personnel (Adler-Tapia, 2013). Goals include effective and efficient coordination, defined scope of work, synergy, compassion, and caring (Alexander & Klein, 2009). Collaborative efforts toward first responder mental health stabilization allow agencies to understand the breadth of impact and consider and assess all reactions (Watson & Shalev, 2005), as well as share and utilize resources, which they normally cannot afford. Developing this plan will help steer first responder agencies to simplify multi-organization dynamics, accept and share resources, ease access to proper interventions.

Developing a mental health support plan framework with the previously mentioned unknowns can provide a false sense of security to developers and responders. During plan development all parties should plan for worse-case scenarios and prepare their resources for that level of expectation.

The mental health support plan framework is broken down into three sections, which overlap to avoid operating as individual silos. The three circles overlap containing: Psychologist, Clergy, and Peer Support

The first section address initial and immediate actions as first responder assume normal shifts. This initial process can begin prior to demobilization due to extended operations similar to wide area flooding or multiple collapsed structures following an

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earthquake. The author realizes that it is neither practical nor ethical to conduct these operations following each shift during the incident, however, once the IC declares the natural disaster has entered the extended operation/recovery phase and first responders reenter staffing normal shifts, this process will begin. Typically, the peer support team will deliver the coping techniques with psychologist and clergy in the background as support. Peer support teams will spread out throughout the community visiting impacted areas delivering recovery information and collecting effect first responder needs.

The second section addresses follow-up actions approximately 30 days after the natural disaster. The planning function recognizes this initial process to begin during demobilization phase. Everly and Mitchell (2008) utilize the terms “Rest, Information, & Transition (RIT).” RIT is an opportunity for engaged first responders to replenish nutrition and receive information on coping technics. The CISM team identifies most affected areas and delivers Crisis Management Briefings and offer Psychological First Aid. Available Psychology services, Employee Assistance Programs, and peer support members will staff various locations and phone banks. An added bonus in this section is the use of therapy dogs.

The third section addresses long-term actions: Psychologist, mental health professionals provide long-term care from self-referrals and colleague referrals, and Employee Assistance Programs. Additional stress coping educational information will be delivered to first responders via email and pamphlets to work locations. Educational information is focused around common reactions, positive coping and avoidance of negative coping, and referral information.

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The overlapping section addresses as needed actions: Peer support or CISM team providing individual and group crisis interventions, along with Clergy and Psychology services providing individual support or referrals. These three anchors intervene collaboratively understanding interactions may involve all anchors or perhaps one.

It is also highly recommended that within the year, first responder agencies deliver a Post-Traumatic Stress Management (PTSM) program to provide psychoeducation and training on healthy coping skills (Ruzek et al., 2017). Peer support members enabling ease of content acceptance should deliver this program in person.

Logistical issues must be considered prior to deployment of the mental health support plan. Ensure intervention attendees aware that an After Action Review will not be conducted during interventions (S. Buser, personal communication, September 8, 2017). If the intervention can be scheduled (CISD & CMB), then locations that are safe, clean, dry, way from chaos and the incident, and adequate to comfortably accommodate the size of focus population must be used. Also, consider supporting the attendees with creature comforts like snacks and drinks (Adler-Tapia, 2013). If the location is not an agency-owned facility, inquire a timeframe the staff and location is available.

This mental health support plan framework is a broad guidance, however, IC's should be familiar with available resources and utilize effectively and efficiently. The author realizes this recommendation is not an end all be all, but allows multiple agencies to collaboratively utilize resources and achieve first responder optimum mental health recovery. The first responder mental health support plan framework is displayed in Figure 1, provided in Appendix B.

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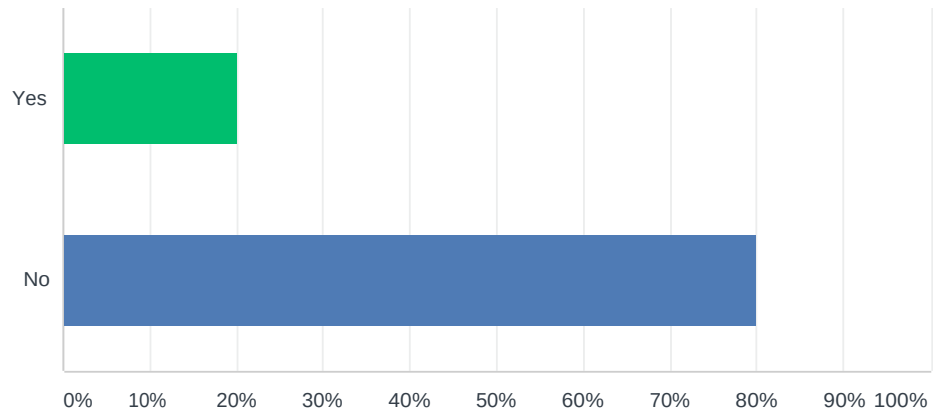
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<http://hdl.handle.net/20.500.11875/2031>

Appendix

Appendix A

Q1 Have you been mentally impacted by a natural disaster?

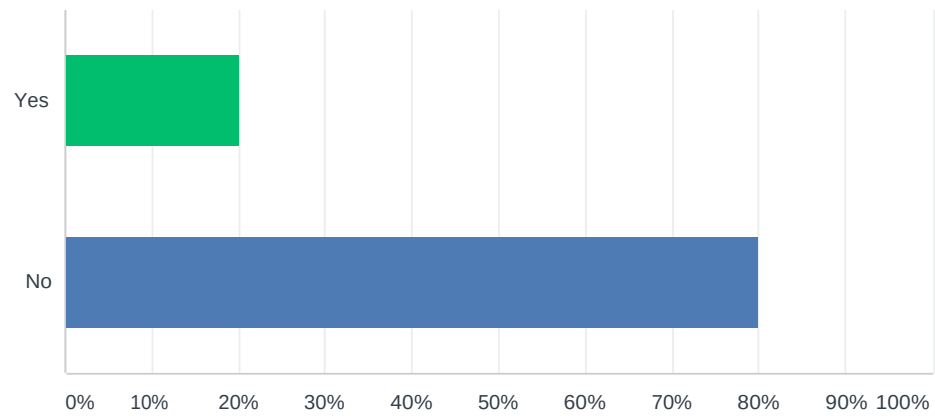
Answered: 15 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		20.00%	3
No		80.00%	12
TOTAL			15

Q2 Have you experienced personal loss during a natural disaster?

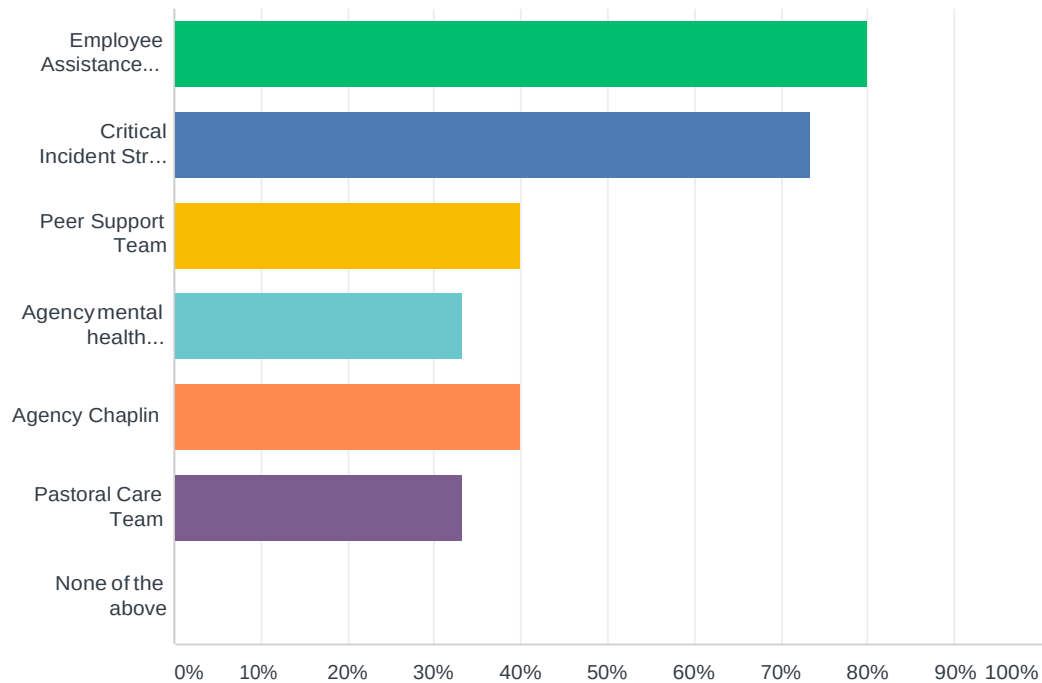
Answered: 15 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		20.00%	3
No		80.00%	12
TOTAL			15

Q3 What resources are available to you in support of mental health recovery? (select all that apply)

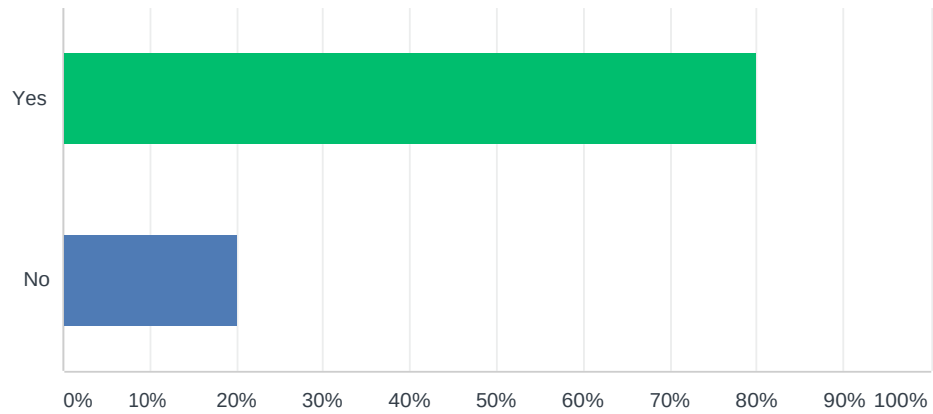
Answered: 15 Skipped: 0



ANSWER CHOICES	RESPONSES	
Employee Assistance Program (EAP)	80.00%	12
Critical Incident Stress Management (CISM) Team	73.33%	11
Peer Support Team	40.00%	6
Agency mental health professional	33.33%	5
Agency Chaplain	40.00%	6
Pastoral Care Team	33.33%	5
None of the above	0.00%	0
Total Respondents: 15		

Q4 Do you know what to do to care for your mental health recovery?

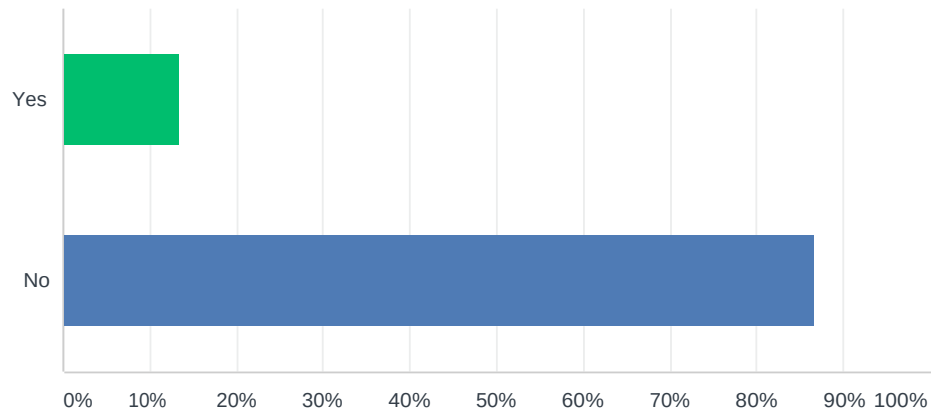
Answered: 15 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		80.00%	12
No		20.00%	3
TOTAL			15

Q5 Did your agency develop a formal mental health support response plan prior to a natural disaster?

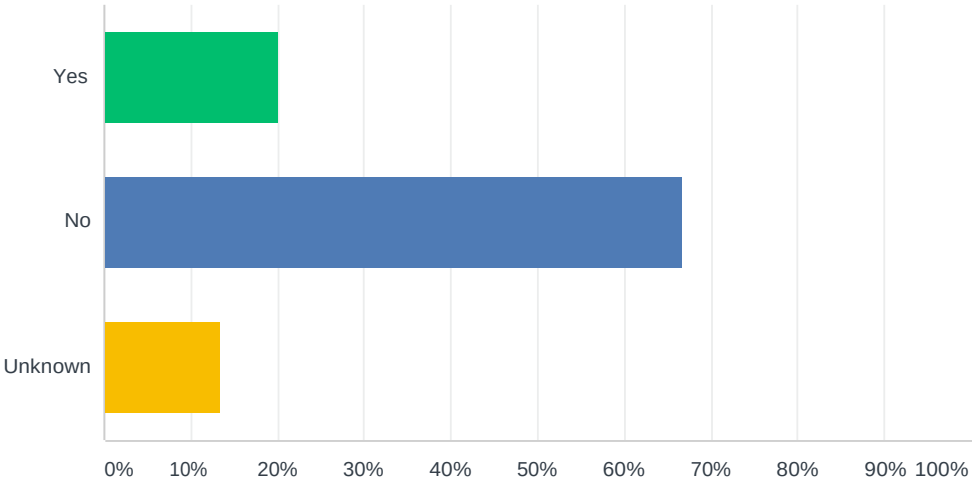
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ANSWER CHOICES		RESPONSES	
Yes		13.33%	2
No		86.67%	13
TOTAL			15

Q6 Did your agency develop a formal mental health support response plan following a natural disaster?

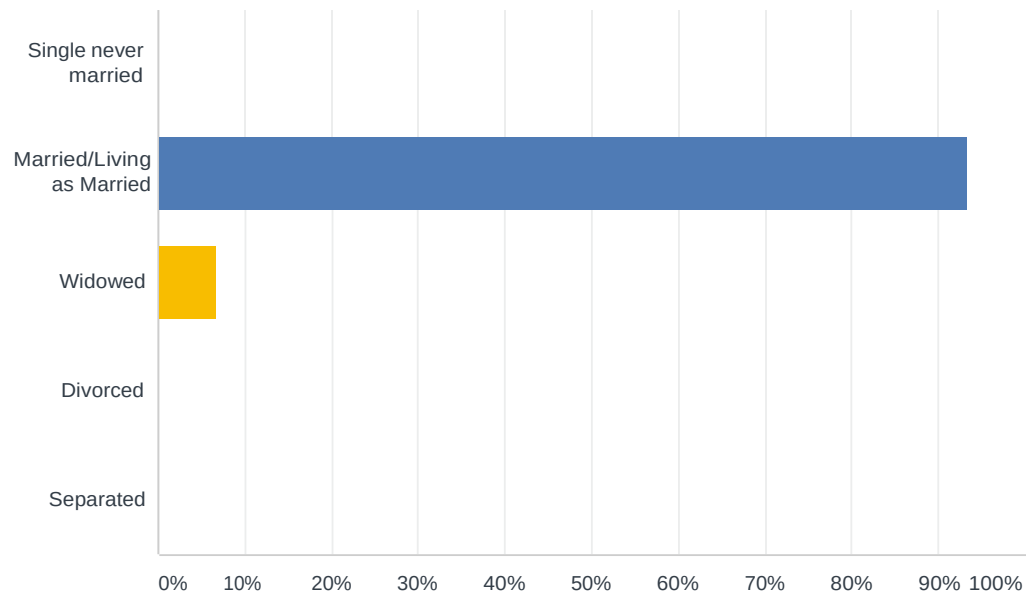
Answered: 15 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		20.00%	3
No		66.67%	10
Unknown		13.33%	2
TOTAL			15

Q7 What is your marital status?

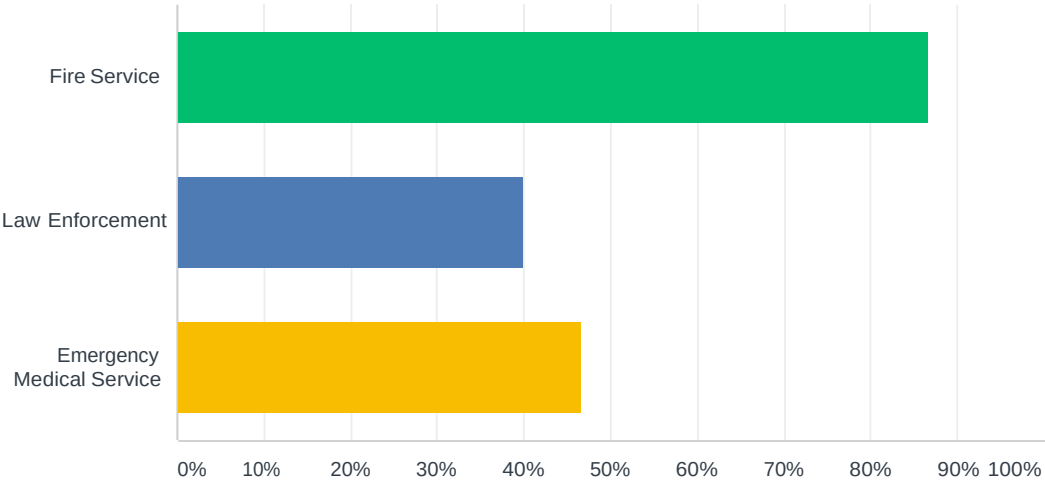
Answered: 15 Skipped: 0



ANSWER CHOICES		RESPONSES	
Single never married		0.00%	0
Married/Living as Married		93.33%	14
Widowed		6.67%	1
Divorced		0.00%	0
Separated		0.00%	0
TOTAL			15

Q8 Which of the following first responder groups do you have membership in? (select all that apply)

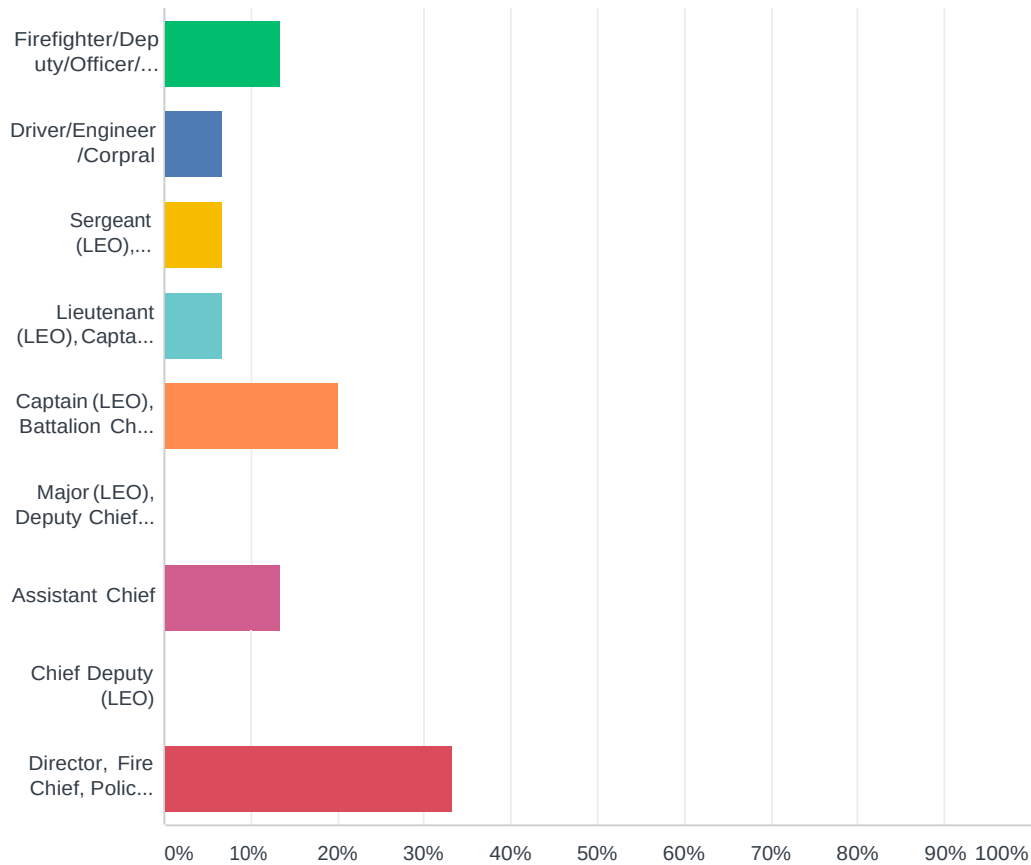
Answered: 15 Skipped: 0



ANSWER CHOICES		RESPONSES	
Fire Service		86.67%	13
Law Enforcement		40.00%	6
Emergency Medical Service		46.67%	7
Total Respondents: 15			

Q9 What is the current rank you hold?

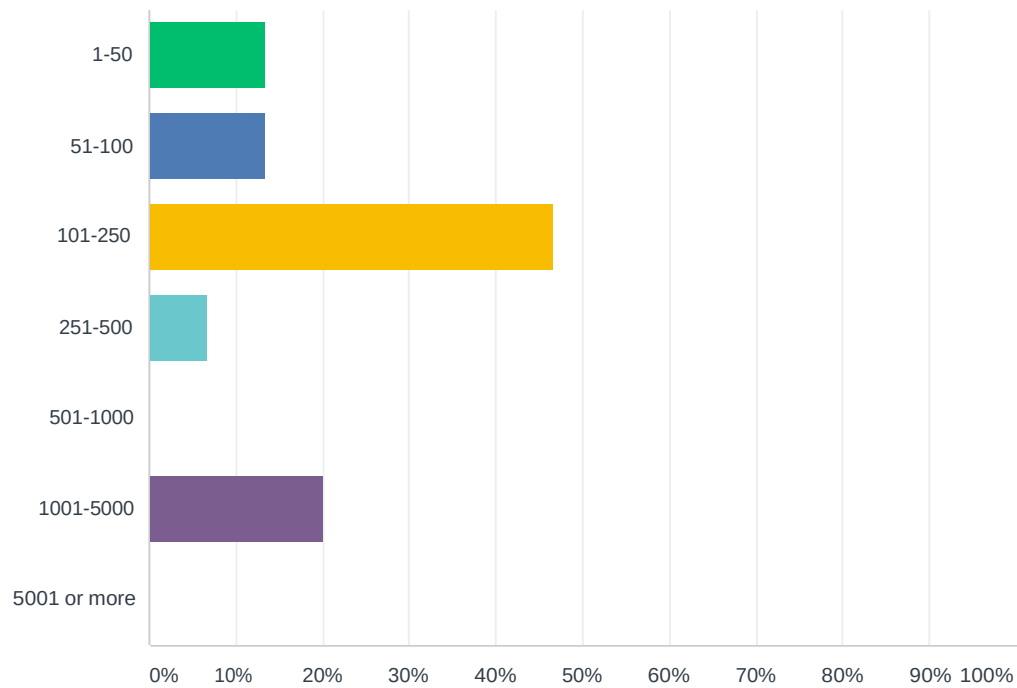
Answered: 15 Skipped: 0



ANSWER CHOICES	RESPONSES	
Firefighter/Deputy/Officer/In-Charge	13.33%	2
Driver/Engineer/Corporal	6.67%	1
Sergeant (LEO), Lieutenant (Fire & EMS), Frontline Supervisor	6.67%	1
Lieutenant (LEO), Captain (Fire & EMS)	6.67%	1
Captain (LEO), Battalion Chief (Fire & EMS)	20.00%	3
Major (LEO), Deputy Chief (Fire & EMS)	0.00%	0
Assistant Chief	13.33%	2
Chief Deputy (LEO)	0.00%	0
Director, Fire Chief, Police Chief, Sheriff, Constable, Head of the Department	33.33%	5
TOTAL		15

Q10 What is the approximate total number of employees of your agency?

Answered: 15 Skipped: 0



ANSWER CHOICES	RESPONSES	
1-50	13.33%	2
51-100	13.33%	2
101-250	46.67%	7
251-500	6.67%	1
501-1000	0.00%	0
1001-5000	20.00%	3
5001 or more	0.00%	0
TOTAL	15	

Appendix B

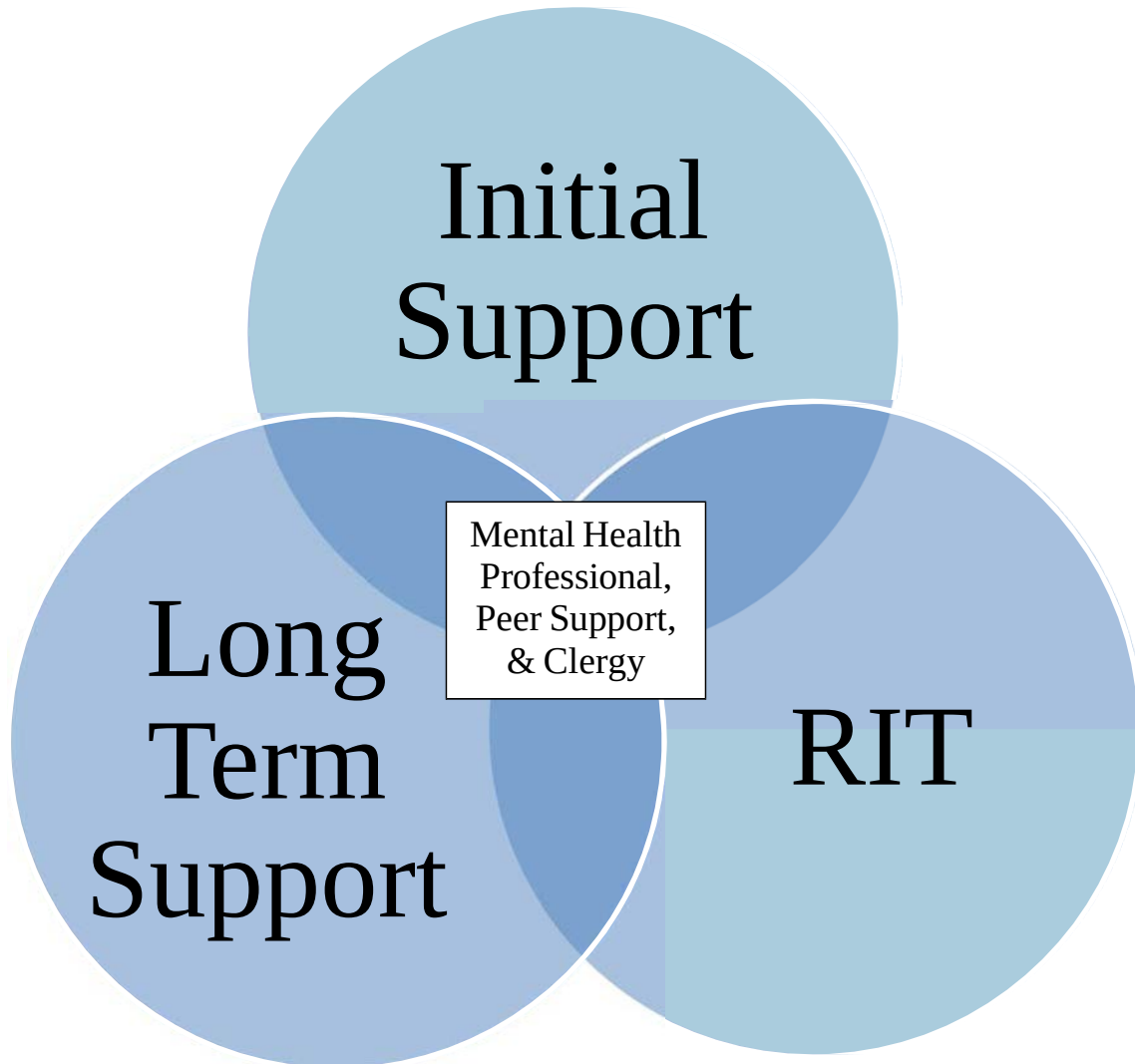


Figure 1: Mental Health Framework Diagram

Appendix C

CRITICAL INCIDENT STRESS INFORMATION SHEETS

You have experienced a traumatic event or a critical incident (any event that causes unusually strong emotional reactions that have the potential to interfere with the ability to function normally). Even though the event may be over, you may now be experiencing or may experience later, some strong emotional or physical reactions. It is very common, in fact quite *normal*, for people to experience emotional aftershocks when they have passed through a horrible event.

Sometimes the emotional aftershocks (or stress reactions) appear immediately after the traumatic event. Sometimes they may appear a few hours or a few days later. And, in some cases, weeks or months may pass before the stress reactions appear.

The signs and symptoms of a stress reaction may last a few days, a few weeks, a few months, or longer, depending on the severity of the traumatic event. The understanding and the support of loved ones usually cause the stress reactions to pass more quickly. Occasionally, the traumatic event is so painful that professional assistance may be necessary. This does not imply craziness or weakness. It simply indicates that the particular event was just too powerful for the person to manage by himself.

Here are some common signs and signals of a stress reaction:

<i>Physical*</i>	<i>Cognitive</i>	<i>Emotional</i>	<i>Behavioral</i>
chills	confusion	fear	withdrawal
thirst	nightmares uncertainty	guilt	antisocial acts
fatigue	hypervigilance	grief	inability to rest
nausea	suspiciousness	panic	intensified pacing
fainting	intrusive images	denial	erratic movements
twitches	blaming someone	anxiety	change in social activity
vomiting	poor problem solving	agitation	change in speech patterns
dizziness	poor abstract thinking	irritability	loss or increase of appetite
weakness	poor attention/ decisions	depression	hyperalert to environment
chest pain	poor concentration/memory	intense anger	increased alcohol consumption
headaches	disorientation of time, place or person	apprehension	change in usual communications
elevated BP	difficulty identifying objects or people	emotional shock	etc...
rapid heart rate	heightened or lowered alertness	emotional outbursts	
muscle tremors	increased or decreased awareness of surroundings	feeling overwhelmed	
shock symptoms		loss of emotional control	
grinding of teeth		inappropriate emotional response	
visual difficulties		etc...	
profuse sweating			
difficulty breathing			
etc...			

**** Any of these symptoms may indicate the need for medical evaluation.
When in doubt, contact a physician.***

THINGS TO TRY:

- WITHIN THE FIRST 24 - 48 HOURS periods of appropriate physical exercise, alternated with relaxation will alleviate some of the physical reactions.
- Structure your time; keep busy.
- You're normal and having normal reactions; don't label yourself crazy.
- Talk to people; talk is the most healing medicine.
- Be aware of *numbing* the pain with overuse of drugs or alcohol, you don't need to complicate this with a substance abuse problem.
- Reach out; people do care.
- Maintain as normal a schedule as possible.
- Spend time with others.
- Help your co-workers as much as possible by sharing feelings and checking out how they are doing.
- Give yourself permission to feel rotten and share your feelings with others.
- Keep a journal; write your way through those sleepless hours.
- Do things that feel good to you.
- Realize those around you are under stress.
- Don't make any big life changes.
- Do make as many daily decisions as possible that will give you a feeling of control over your life, i.e., if someone asks you what you want to eat, answer him even if you're not sure.
- Get plenty of rest.
- Don't try to fight reoccurring thoughts, dreams or flashbacks - they are normal and will decrease over time and become less painful.
- Eat well-balanced and regular meals (even if you don't feel like it).

FOR FAMILY MEMBERS & FRIENDS

- Listen carefully.
- Spend time with the traumatized person.
- Offer your assistance and a listening ear if (s)he has not asked for help.
- Reassure him that he is safe.
- Help him with everyday tasks like cleaning, cooking, caring for the family, minding children.
- Give him some private time.
- Don't take his anger or other feelings personally.
- Don't tell him that he is "lucky it wasn't worse;" a traumatized person is not consoled by those statements. Instead, tell him that you are sorry such an event has occurred and you want to understand and assist him.

Appendix D

COMMON STRESS REACTIONS

BEHAVIORAL

- Increase or decrease in activity level
- Substance use or abuse (alcohol or drugs)
- Difficulty communicating or listening
- Irritability, outbursts of anger, frequent arguments
- Inability to rest or relax
- Decline in job performance; absenteeism
- Frequent crying
- Hyper-vigilance or excessive worry
- Avoidance of activities or places that trigger memories
- Becoming accident prone

PHYSICAL

- Gastrointestinal problems
- Headaches, other aches and pains
- Visual disturbances
- Weight loss or gain
- Sweating or chills
- Tremors or muscle twitching
- Being easily startled
- Chronic fatigue or sleep disturbances
- Immune system disorders

PSYCHOLOGICAL/EMOTIONAL

- Feeling heroic, euphoric, or invulnerable
- Denial
- Anxiety or fear
- Depression
- Guilt
- Apathy
- Grief

THINKING

- Memory problems
- Disorientation
- Slow thought processes; lack of concentration
- Difficulty setting priorities or making decisions
- Loss of objectivity

SOCIAL

- Isolation
- Blaming
- Difficulty in giving or accepting support or help
- Inability to experience pleasure or have fun