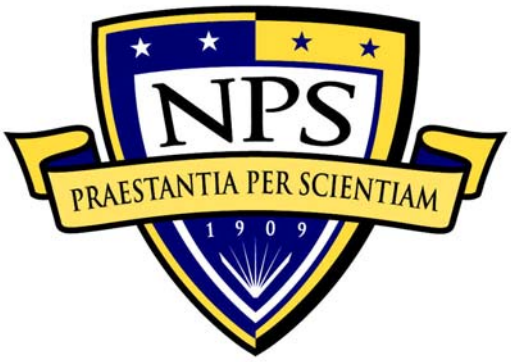

NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

SUPPORT FRAMEWORK FOR FIRST RESPONDER FAMILY MEMBERS: A PROPOSED MODEL FOR INCREASING RESPONDER EFFECTIVENESS

by

Brian E. Sturdivant

December 2009

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This thesis focuses on the physical, mental and emotional support requirements for the family members of first responders engaged in emergency scene mitigation. The likelihood of a large-scale incident involving multiple emergency disciplines and a multi-day deployment has significantly increased. Effective, efficient and safe operations during these incidents could be greatly enhanced if responders' anxiety and apprehension is decreased.

Emergency responders and their families are often ill prepared to deal with the myriad of issues that arise from local large scale incidents. Parameters of the proposed solutions for increased first responder family member support will be identified to include; updated listing of personnel contact information, sensitive financial documentation and defined processes that outline integration of the mega-community concept which leverages all community partners (business, churches, schools, non-governmental and non-profit organizations) into the enhanced first responder family member support system network. The development of a "blue ocean strategy" will also be highly recommended as a method for optimizing and maintaining financial responsibility as family support plans are constructed and implemented.

The ability to effectively develop and implement first responder family member support systems can enhance emergency scene mitigation. The utility of such programs also reflect a total health and wellness approach from the organization toward its members and their families.

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SUPPORT FRAMEWORK FOR FIRST RESPONDER FAMILY MEMBERS: A PROPOSED MODEL FOR INCREASING RESPONDER EFFECTIVENES

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Submitted in partial fulfillment of the
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I. INTRODUCTION

American society is vulnerable to a massive loss of life and significant disruption in the socioeconomic climate relative to a catastrophic natural disaster or terrorist attack. During response and mitigation of a natural disaster or man-made terrorist event, the role of first-responders will be absolutely critical for minimizing the damage and maintaining the social, economic, and political stability in the wake of such disaster.

When the hurricanes hit the Gulf Coast region of the United States in September of 2005, there were many reports of firefighters, police officers, public health workers, and emergency medical technicians not reporting to work in New Orleans and other cities impacted by the storms. There were also reports of emergency responders abandoning their assignments after reporting to duty. Some New Orleans Police Department (NOPD) officers told their superiors they were leaving. Others worked for a while and then stopped showing up. Still others, for reasons not always clear, never reported for duty after the storm (Treaster, 2005).

One of the reasons for these absences given was that these responders were securing the safety and well-being of their immediate and extended family members (Jackson, 2005). There were clear indicators that at least 80 percent of fire and emergency personnel responding to large scale disasters (e.g., Hurricane Katrina and World Trade Center 1993 and 2001) experienced moderate to severe symptoms of critical incident stress reactions (CISR) during or shortly after the incident (Gorski, 2001). In 70 percent of these cases the CISR symptoms will dissipate without treatment (Gorski, 2001). This is especially true if the emergency responders and their families have completed pre-incident preparation to deal with the traumatic effects of large scale disaster.

In 30 percent of cases, the CISR will progress into a more severe and long-lasting case of post traumatic stress disorder (PTSD) (Gorski, 2001). Many of the World Trade Center rescue and recovery workers were still suffering serious mental health effects three years after the disaster. This finding was released by the World Trade Center Health Registry, along with the fact that one in eight rescue and recovery worker likely had post-

traumatic stress disorder when they were interviewed in 2003 and 2004 (New York City Department of Health and Mental Hygiene [DOHMH], 2007). The World Trade Center Health Registry conducted an initial survey of nearly 30,000 rescue and recovery workers. The respondents ranged from police and firefighters to clergy and construction workers. The prevalence of post-traumatic stress disorder varied significantly by occupation. Rates ranged from 6.2 percent among police officers to 21.2 percent among unaffiliated volunteers, which included those who were not embedded with non-governmental organizations (NGOs) such as the Red Cross (DOHMH, 2007). The prevalence of PTSD in the U.S. population is roughly four percent at any given time (DOHMH, 2007). This survey found that firefighters developed PTSD at nearly twice the rate of police officers (12.2 percent versus 6.2 percent), which is consistent with past research (DOHMH, 2007).

The discrepancy is not well understood, but the following explanations have been offered by the authors: the rigorous screening process for police recruits, and an under reporting by police officers who fear being judged unfit for duty. Also, firefighters lost six times as many comrades at the World Trade Center as police officers did. This suggests that grief may have compounded the emotional trauma and risk of PTSD (DOHMH, 2007). These findings would reflect how the road to recovery from emotional and physiological trauma should include psychosocial things such as good family support and continuity of socioeconomic status (Spiegel, n.d.).

Often, in times of disaster, one of the difficult choices first responders must make is to either report for work and to protect the community and citizens they are sworn to serve, or to secure the well-being and safety of their families. Planners are aware of the need to safeguard the first-responder community and their families during these incidents and research has outlined the need for a comprehensive framework for first-responder family member support (Jackson, 2005).

This is especially true for firefighters, police officers, public health workers, emergency medical personnel, and any other responder who may be called upon to serve as rescuers while at the same time being victims of such events. In the cases where first-responders do not receive proper family member support functions before, during, and

after an event, it can be expected that anxiety levels will be significantly increased (DOHMH, 2007). Consequently, the effective and safe discharging of their emergency scene duties will be severely hampered.

First responders are never solely concerned with their own health and safety, but also with that of the community they serve and their families. This is especially true of those that serve in the unique role of responder and evacuee or victim (Jackson, 2005). Hurricane Katrina case studies have reflected that many first-responders felt additional stresses due to the simultaneous role of rescuer and victim. These stresses lead many responders to abandon their post, refuse to report to duty and even drove some to suicide (Jackson, 2005). In the week following Hurricane Katrina, two police officers died by suicide and 200 officers allegedly left their post (Lamberg, 2006). During Hurricane Katrina, many police and fire stations were destroyed. Police and firefighters struggled to do their jobs without vehicles, food and water, a change of clothing, or a place to sleep. Up to 80 percent of the city's first responders lost their homes (M. Seville, personal interview, April 9, 2009). Dr. Howard Osofsky, Chair of Psychiatry at the Louisiana State University Health Sciences Center in New Orleans and other researchers surveyed 668 first responders in New Orleans, at their job sites between February and May 2006, using standard questionnaires for PTSD (the PTSD checklist, civilian version) and depression (Center for Epidemiologic Studies Depression Scale, short form) (DOHMH, 2007). These are official forms utilized by the Center for Disease Control and Prevention (Lamberg, 2006). Additional questions regarding alcohol use and marital function were also included. The self-administered surveys took 20 minutes to complete and drew a greater than 95 percent response rate (Lamberg, 2006). Most respondents had witnessed deaths and injuries.

One in 20 of those surveyed reported the death of a family member, and one in four had witnessed the death of a friend. One in 10 respondents described symptoms consistent with PTSD; one in four described symptoms of depression; one in five revealed an increase in alcohol consumption; and two in five admitted increased marital conflicts (Lamberg, 2006). The results illustrate the critical relevance of supporting first responder forces and their family members. The data provided also articulates and

reflects the past and current research and studies that have been conducted. This research clearly points to the need for support frameworks that include family members: this will allow for higher levels of mental and emotional recovery of first responders who have engaged in significantly traumatic events.

A. RESEARCH QUESTIONS

Will a comprehensive family support plan for rescuer/victim first-responders impact their ability for increased effectiveness during a catastrophic natural disaster or man-made terrorist event? How has family-related issues impacted effectiveness of first-responders? Would a comprehensive plan of support for rescuer/victim first-responder reduce emergency scene anxiety and apprehension among responders? This thesis has already revealed the negative impacts of not having a comprehensive family support plan in place. This research will look to identify the "value added proposition" of having a plan and the positive impacts on responder health and wellness. Policy recommendations will be addressed that include strategies to support this valuable resource for homeland security preparedness and response at the state and local levels.

B. THESIS ARGUMENT

Attorney General John Ashcroft summarized the various readiness problems of first-responders and challenges in correcting these when he told Congress, "Long before the attacks of September 11th, you recognized the importance of inter-agency coordination and planning, information sharing with state and local law enforcement, and training and equipping first responders" (Tierney, 2005). This thesis will argue that "equipping first-responders" also entails the safety and well-being of their immediate family members, including a comprehensive plan that covers all natural disaster and man-made terrorist incidents. This plan would result in more positive outcomes during operational responses. First-responders cannot function at high levels when concerns for their families' well-being override the task requirements for successful emergency scene mitigation. The primary assertion of this argument is that first responder effectiveness can be enhanced by the development and implementation of a comprehensive plan that

addresses the well-being and security of family members, especially for the rescuer/victim first responder. The parameters of the plan should be all inclusive, covering natural disasters, weather-related catastrophes, and man-made terrorist events. In order to demonstrate the need for or gage support for a family support plan, a select group of first responder command officers were interviewed. The evidence collection included interviews with local level first responder commanders and surveys collected from state-level emergency managers and FEMA directors from five of the 10 FEMA regions. They were asked a myriad of questions that ranged from what type of responder support is currently in place within their jurisdiction to what were their personal thoughts and perspectives on what should be in place.

The emotional well-being of the nation's first responder community should be a priority. This research allows for continued development with the necessary efforts for responder and family member emotional security while increasing the effectiveness and efficiency of this vital component of homeland security and defense.

C. SIGNIFICANCE OF THE RESEARCH

This thesis adds to the national, state and local discussion on first responder support and how that support should be geared toward inclusion of family members. This is especially true relative to the rescuer/victim but should be universal in its application within every first response discipline. This thesis explored and researched what is currently in place, the missing elements and how to bridge the gaps for a comprehensive first responder support framework for family members. It specifically examined the effects of natural disaster and terrorism and the support systems necessary for increased responder safety and effectiveness. It also provides additional information to be utilized at the policy development level while demonstrating that first-responder family support systems should be a critical element for advancing homeland security measures.

D. RESEARCH METHODOLOGY

A qualitative research methodology was utilized along with a thematic analysis that outlines any patterns derived from the surveys and interviews. Data and information

organization involved reducing, categorizing, developing pattern recognition, and relationship highlighting. Memoing was also utilized to monitor and maintain a tracking process of all respondents that were surveyed or interviewed.

The total body of data was collected, analyzed, and coded to reflect common language, themes, thoughts, and ideas regarding a support framework for first-responder family members (especially rescuer/victim responders). This analysis analyzed from benchmarking and system comparisons and provided a foundation for measuring the current investment of time, finances and resources required to achieve a suitable family support plan for first responders. The literature review in Chapter II discusses some of the current documentation that outlines support needed for first responder emotional and psychological well-being along with the lack of support frameworks and templates.

Chapter III explores the current disaster preparedness efforts and how family support systems are integrated to include community preparedness efforts, public safety and military models of family support processes. Chapters IV and V will out line interview and survey data and analysis with first responder command officers and federal/state emergency management professionals; respectively. Chapter VI of this thesis will provide an overview and synopsis of first responder family support system.

The concluding Chapter VII will make recommendations and attempt to identify value added propositions with the implementation of "blue ocean strategies and the mega-community concepts." These concepts can be leveraged to enhance current first responder family member support systems.

II. LITERATURE REVIEW

This chapter outlines a thumbprint of the current state of affairs as it relates to literature that is pertinent to the support of first responder forces. There is only limited documentation available which speaks to any specific method of addressing the well-being and increased effectiveness of first responders. The following literature was reviewed in an attempt to get past the identified need for support and move toward the framework foundations for the development and implementation of such a support system.

The problem of how to provide adequate emotional support during a crisis for the nation's first responders has received a significant amount of attention. This issue truly came to light concerning the World Trade Center attacks and Hurricane Katrina responses. Both of these incidents exemplified emergency services personnel as simultaneous victims and responders. The author of this thesis researched strategy documents, first responder case studies, Hurricane Katrina studies, first responder psychology, and public safety organizational support policy and procedure.

A. STRATEGY DOCUMENTS

One strategy document reviewed, *Homeland Security Presidential Directive* (HSPD-18), provides guidance regarding medical countermeasures against weapons of mass destruction (WMD). This threat has been described as "one of the greatest security challenges facing the United States" (White House, 2007). Although HSPD-18 doesn't specifically mention it, this threat most certainly includes the negative psychological impacts on responders, especially those without comprehensive family well-being planning components.

Another document reviewed, the *Houston-Galveston Area Council Regional Strategies for First Responder Preparedness,* details "populations with special needs," such as the visually and mobility impaired, hearing impaired, elderly, non-English speakers, and first responders and their families who could all benefit from pre-planned

emergency instructions through communication mass media (Houston-Galveston Area Council [H-GAC], 2002). Emphasis was also placed on organizational planning for first responder notification, reporting, and staging (H-GAC, 2002). This planning should also consider mechanisms for real-time responder updates that are made available for concerned family members.

One Congressional Research Service Report for Congress, *First Responder Initiative: Policy Issues and Options* addresses funding sources and revenue streams that are available as options for first responder preparedness. It states, "The First Responder Initiative program's primary purpose would be to improve the ability of first responders to respond to terrorist attacks involving weapons of mass destruction" (Canada, 2003). The identified grant programs could be utilized to fund a wide range of activities in the areas of planning, training, exercises, and equipment (Canada, 2003). These grant programs could also possibly be utilized to support the first responder family member support initiatives.

This review of strategy documents reflected an understanding and documentation of first responder preparedness and training and strategies that would increase the level of readiness. However, there was very limited, if any, mention of first responder preparedness for family member support and how or if that preparedness ties into their personal family members' security. If these concerns are addressed, this, in turn, would increase the first-responders' effectiveness on-scene during a terrorist event or natural disaster.

Furthermore, this body of literature reflected regional approaches to hazardous material incidents, funding sources for increased planning, training, and securing equipment for first responders and medical countermeasures for weapon of mass destruction incidents. However, it did not clearly link these resources with responder family member support functions.

B. FIRST RESPONDER CASE STUDIES

In his chapter "Improving the Effectiveness of First Responders in Homeland Security" in *The Homeland Security Papers: Stemming the Tide of Terror,* Phillip A.

Bossert (2004) claims a proposed fix to the plight of first responders within homeland security; "The federal government needs to utilize the leadership, organizational, and operational expertise of the U.S. military to assist FEMA's Office of National Preparedness in establishing Red Flag, Joint Readiness Training Centers [JRTC], and National Training Centers [NTC] in all fifty states." These training centers, modeled after their military counterparts, could serve as a platform for comprehensive family support plans to be developed at the federal government level. Input from the state and local first responder community could be integrated into the federal training center's curriculum for continuity of processes as related to responder family member support. The continuity of a first responder and family member support curriculum framework could be formalized at the federal level within such institutions as the National Fire Academy, Emergency Management Institute and Federal Bureau of Investigations (FBI)/Federal Law Enforcement Training Center in Quantico, Virginia. This framework could then be leveraged at the state and local levels with the flexibility to be customized based on the specificity of each organization and the regional approach to natural disasters.

In the final report *Human Behavior and WMD Crisis/Risk Communication Works* there were a series of questions posed to address any adverse psychological impacts relative to a weapon of mass destruction or other terrorist crisis (Human Behavior, 2001, p. 5). The responses to these questions and additional research were grouped into three different sub-headings that included Research and Analysis, Communications and Awareness, and Training/Preparation. The third, Training and Preparation, involves the ability to better organize pre-disaster and consequence management, overall preparation, coordination of an emergency response plan, implementation of a two-way communication system, and upgraded training of the medical/first responder community. This report also made the following point regarding family member support: "Preparation for a WMD attack requires trained responders. Training requires time and resources. It also requires ongoing support and care for the families of medical personnel and first responders (Human Behavior, 2001, p. 5).

Finally, the report also requires a program that addresses WMD effects on the responder community. In his thesis, *Planning for Success: Constructing a First*

Responder Planning Methodology for Homeland Security, the author, Thaddeus Jankowski, speaks to the first responder need to redefine planning processes for adequate response to acts of terrorism (Jankowski, 2005, p. 12). The inclusion of a family support plan needs to be included in redefining the planning processes. There have been questions raised regarding traditional fire service planning methodologies having modern day applicability. In his thesis, Jankowski explained, "The traditional first responder planning methods may afford an appropriate response to routine fires and emergencies. However, present planning methods cannot consistently or effectively ensure a safe and appropriate response to asymmetrical threats" (Jankowski, 2005, p. 12).

In a hearing before the Subcommittee on National Security, Emerging Threats, and International Relations, Fire Chief Edward Plaugher of the Arlington County Virginia Fire and Rescue Department stated "America's local emergency responders will always be the first to confront a terrorist incident and will play the central role in managing its immediate consequences. Their efforts in the first minutes and hours following an attack will be critical to saving lives, reestablishing order, and preventing mass panic. The United States has a responsibility to provide them with the equipment, training, and other necessary resources to do their jobs safely and effectively" (Combating Terrorism, 2004). Although not specifically identified, emotional support and family well-being are part of "other necessary resources" that first responders need.

C. HURRICANE KATRINA STUDIES

Carle Jackson, a criminal justice policy advisor for the Louisiana Commission on Law Enforcement, explained that worry about their families was a significant problem for New Orleans emergency workers during Katrina (2005). So when Jackson wrote his initial plan based on post-Katrina issues, priority evacuation of emergency responders' families was a strongly worded recommendation. In his report, *Managing Catastrophic Events: The Lessons of Katrina,* Jackson (2005) specified, "Predetermined emergency evacuation and shelter sites for first responder families is critical for effective response." The report goes on to articulate how first responder personnel cannot function at high levels when concerns over family well-being are at the front of the emotional thought

process. When stress levels reached a breaking point, some officers abandoned their posts, refused assignments and went absent without leave (AWOL). Such conduct is not to be condoned but it is certainly understandable and somewhat predictable.

Evacuating, sheltering families ahead of time and pre-planning family mass prophylaxis, especially when the disaster is of such a nature as to provide no advance warning, is critical to the emotional well-being of the first responders, which will increase their ability to concentrate and function effectively and with efficiently on the emergency scene (Jackson, 2005).

The Emergency Management Response to Hurricane Katrina: As told by the First Responders-A Case Study of What Went Wrong and Recommendations for the Future contains first responder accounts of the Hurricane Katrina catastrophe (Fischer et al., 2006). The responders were simultaneously victims and responders with responsibilities to both emergency response organizations and their families. In the report, there was an account of one responder's plight: "The most heartbreaking event reported involved a young responder who was home with his family (he did not evacuate) during impact. When he called for assistance to save his family he indicated that he had tied his family members to the roof of his house as he begged for rescue. Rescuers could not reach them as it would have put first responders in peril. The phone died with this young husband, father and first responder crying. When rescuers were able to make their way to his house, they found only the foundation and this family was never found or heard from again" (Fischer et al., 2006).

This report also documented the convergence of volunteers who desperately wanted to help while at the same time asking for food, water and facilities for themselves (Fischer et al., 2006). This report revealed studies and information pertaining to first responders in the dual role as victim and responder. The arrival of self-sufficient first responders and volunteers from other parts of the country during Hurricane Katrina was also a common theme of the literature reviewed that pertained to Hurricane Katrina. However there was no information pertaining to the security of first responder family members and whether or not that security was instrumental in higher levels of efficiency among responders.

D. FIRST RESPONDER PSYCHOLOGY STUDIES

In his article, "The Stress Paradox," author Bruce Siddle argued the following:

> The increased effectiveness and efficiency with emergency first responders involve operational requirements with precision but not in one single area of performance, to include:
>
> - Precision (analytical) processing-the ability to interpret all of the perceptual sensory information into a single working hypothesis of problems and solutions.
>
> - Precision based pretreatment-the preparation of tools, supplies and equipment that are stress compatible. The coordination of equipment should compensate for stress-induced visual distortions.
>
> - Precision in demeanor-the first responder must exude an aura of command presence, confidence, competence and calmness. These attributes are absorbed by the situation, witnesses and bystanders; they go a long way with scene control, communication, and cooperation (Siddle, 2008, p. 28).

This level of precision speaks to the total focus and concentration required to effectively carry out the mission relative to emergency response.

Another report, *Surviving Field Stress for First Responders,* compiled by the Agency for Toxic Substances and Disease Registry discusses scientific studies on the effects of stress from natural and man-made disasters. The development of psychological injuries such as depression, chronic anxiety, and post-traumatic stress disorders can lead to long-term physical ailments if left untreated. The report stated, "Terrorist attacks result in greater psychological casualties than natural disasters or technological accidents. Deliberate cruelty and violence by others is the most damaging of all types of stress" (Agency for Toxic Substances and Disease Registry, 2005). This document reflected the body's physiological changes as impacted by emergency scene stressors along with the negative psychological impacts. Any process or program that reduces responder

psychological stresses, such as a family support system for family members, should provide for a more emotionally stable and environmentally safe emergency scene work environment.

The subject of disasters' affects on children was raised by an article found in the *Journal of Traumatic Stress*. The article, Posttraumatic Stress in Children with First Responders in Their Families, discussed the high levels of exposure and occupational stress of first responders who served at the World Trade Center and how that may have caused their children to also be affected following the terrorist attacks of September 11, 2001. New York City public school children participated in a study that examined mental health problems six months after the attack. This document provided the cornerstone premise that terrorist events can have negative impacts on family members of the first responders that are involved with mitigation efforts (Duarte et al., 2006, pp. 301–306).

In *9/11: Mental Health in the Wake of Terrorist Attacks,* the chapter entitled, "Evaluation and Treatment of Firefighters and Utility Workers Following the World Trade Center Attacks," shared the findings of the Weill Cornell Medical College Department of Psychiatry and the New York Presbyterian Hospital Burn Center. The findings reflected how two populations, first responders and their family members, were affected by their exposure to the terrorist attacks and the aftermath (Difede et al., 2006). The context of this chapter revolves around firefighters' exposure to stress and apprehension during their response in which they fought fire, rescued victims and recovered remains. The chapter also discusses how Consolidated Edison utility employees were exposed to the toxic environment of ground zero as they performed their duties which included shutting off energy sources that fueled the fires, and the restoration of gas, steam and electric power to lower Manhattan.

The Center for Disease Control and Prevention (CDC) conducted a health hazard evaluation, *Health Hazard Evaluation of Police Officers and Firefighters after Hurricane Katrina (New Orleans Louisiana, Oct. 17-28 and Nov. 30-Dec.5, 2005),* after reports of increased injuries, as well as symptoms of physical illness and psychological strain among police officers and firefighters who had responded to the mitigation efforts of

Hurricane Katrina. This evaluation also reflected that one third of the respondents reported either depressive symptoms, symptoms of PTSD, or both (Center for Disease Control and Prevention [CDC], n.d.).

The article, *Katrina's Mental Health Sequelae Hit New Orleans Residents Hardest*, found similar findings. The article reported that a community-based survey revealed the fact that anxiety or mood disorders were nearly twice as common among Hurricane Katrina survivors from New Orleans compared with people who had lived in other storm affected areas (Levin, 2008). This is rather revealing, especially considering that 80 percent of the New Orleans Fire Department resides within the New Orleans city limits (M. Sevelle, personal interview, April 9, 2009).

Given this, it would indicate members of the New Orleans Fire Department and their families were engaged in this community survey. The aforementioned studies support the notion that natural disasters can have a negative impact on responders that are involved with mitigation efforts and their family members.

This body of literature spoke to the psychological and physiological effects of emergency scene stress. The studies included in this section of the literature review were specific to the World Trade Center attacks and Hurricane Katrina responses, but it is sensible to suggest that these findings could pertain to other disasters.

E. CONCLUSION

This multi-faceted literature review clearly reveals the need for a comprehensive plan that takes into consideration the community and first-responder family members. It is evident at all levels, from strategy documents to case reviews that such a plan would result in an increase of first responders' on-scene mental health which would increase their abilities and ensure greater effectiveness within the realm of public safety. Although this review is extensive in nature, there are obvious gaps that should be addressed relative to identification of need and development of a comprehensive all-inclusive plan. The strategy documents broadly address WMD countermeasures with no true direction on what the considerations for first responders and their families should entail. First responder studies raise the issues of the outdated planning, preparedness and training

models, and the need to align these models with twenty-first century asymmetrical threats. The Hurricane Katrina studies defined problem areas during one of the worst domestic catastrophes in this country's history. There were lessons learned and after action reports regarding Katrina; however, absent were the templates and blueprints to address the recommendations brought to light from the reports. First responder psychology literature addressed the stress impacts on performance, albeit with familiar recommendations to address such stresses.

Again, as the literature revealed, there was no mention of connecting the dots with family support and first responder performance.

This literature review also was directly connected with at least two of the three research questions: "How has family related issues impacted effectiveness of first-responders?" and "Would a comprehensive plan of support for rescuer/victim first responder reduce emergency scene anxiety and apprehension among responders?" The strategy document review showed the weapons of mass destruction threat as certainly having negative psychological impacts on responders, particularly those without a comprehensive family well-being planning component (White House, 2007). Also, a communication component involving family members of deployed responders was identified in the review as critical for alleviating some of the psychological stresses related to natural and man-made terrorist disasters. Pre-planned emergency instructions through mass media communication work to keep responders and family members engaged with real-time updates, this also has a positive emotional impact on all involved (H-GAC, 2002). Utilizing the leadership, organization, and operational expertise of the U.S. military for the establishment of federal regional training centers with an emphasis on responder support curriculum could also increase responder effectiveness and reduce anxiety (Bossert, 2004). As stated in the *Human Behavior and WMD Crisis/Risk Communication Workshop* final report: "Preparation for a terrorist attack requires trained responders. Training requires time and resources. It also requires ongoing support and care for families of responders" (Human Behavior, 2001, p. 5).

The literature review also revealed gaps relative to the thesis research questions. However, these gaps revolved around the lack of comprehensive plans and a general

template for plan development. The literature reviewed failed to reveal connectivity to the research question “Will a comprehensive family support plan for rescuer/victim first-responders impact their ability for increased effectiveness during a catastrophic natural disaster or man-made terrorist event?” The significance of the research, methodology and data collection points will look to address this question in limited detail in the next chapters.

III. CURRENT TWENTY-FIRST CENTURY DISASTER PREPAREDNESS FAMILY SUPPORT

This chapter outlines disaster and crisis preparedness efforts that are currently in place and provides a snapshot of what is available from different disciplines. It is important to understand what is currently in place and available to ensure all efforts to upgrade the support for first responders and their families could be seamlessly integrated into the current processes. These efforts and recommendations are driven by NGOs (Red Cross), community volunteer efforts (CERT), levels of public safety preparedness and military models.

In the article, *Protecting Emergency Responders*, the National Institute for Occupational Safety and Health (NIOSH) wrote:

> Every day across the nation, emergencies occur that threaten our lives, well-being, property, peace, and security. Every day, we rely upon our local police officers, firefighters, emergency medical technicians, public health professionals, and others to arrive quickly and do what needs to be done to restore the safety, the security, the peace, and the routine to our lives. These emergency responders are trained to handle such emergencies that occur day by day in our cities, towns, villages', and countryside's. On rare occasions, emergencies occur that are so large in scale that local responders may not have the resources (people, equipment, expertise, funds) to effectively and safely respond. (2004, p. 38)

Even in such cases, local responders do not hesitate to do what they have been trained to do which is go to the site prepared to save lives, protect property, and remove the threat. This article from NIOSH speaks to the critical resource need (people, equipment, expertise, and funds) of first responder deployment. The resources of people, expertise, and funding should include the development of family member support systems for enhanced operational functionality on the emergency scene.

A. RESEARCH METHODOLOGY AND DESIGN

The overall objective of the research conducted for this thesis was to collect experiences and opinions on the current state of first responder family member support

systems and the value or need for continued development of comprehensive plans that support both responders and their families. The interviews and surveys were conducted with a broad range of respondents that included local, state and federal first responders and disaster preparedness/crisis management professionals. Through documentation of these views, this thesis will contribute to the development of comprehensive first responder family member support planning. Significant research was also conducted relative to first responder family member support case studies and existing models which include military family support.

This study utilized personal interviews conducted over the telephone and a Web-based survey tool to collect quantitative data on the current state of responder support systems and the need for the continued development of the planning process for such support. The interviews were conducted with 10 first responder command officers selected throughout the United States. The selection of these individuals was made based in part on the 10 command officers having personal experience with either a natural disaster or an act of domestic terrorism. These disasters included wildfires, flooding, tornadoes, hurricanes and snowstorms. The acts of domestic terrorism included both World Trade Center attacks of 1993 and 2001.

The interview process consisted of six directed questions that allowed for considerable latitude with injecting the subjectivity of personal experiences and perspectives (see Appendix A). The survey process consisted of 10 questions (different from the interview questions) that allowed for personal perspectives, experiences and thoughts regarding a needed direction for upgrading support systems for family members of first responders.

B. HISTORICAL PERSPECTIVE ON PREPAREDNESS

Prior to the infamous attacks that occurred on September 11, 2001, emergency management professionals had been advising the American public to increase their awareness and preparedness efforts regarding disasters. This advice included first responder organizations and the families of their members. The inability of the emergency management community to clearly articulate what would constitute a disaster

(which may or may not include a severe thunderstorm, hurricane, tornado, and which may or may not be based on the level of damage or a subjective determination in the mind of the victims) merely clouded the subject and caused some confusion. Griffith and Vulpitta state in their article regarding emergency response plans, "There is no hard and fast definition of what constitutes a disaster. Sometimes a disaster develops quickly, hitting you full-force with little or no warning. Other times, a disaster looms on the horizon for weeks until it becomes large enough to be a threat" (Griffith & Vulpitta, 1999). The intent was to focus on being prepared to weather natural disasters within the United States, especially with Mother Nature exercising her powers on a regular basis. The push for citizen preparedness efforts included disaster supply kits and family disaster plans. The supply kits were to have enough supplies for sustainment of up to 72 hours. Recommendations included four basics one should stock in the kit: water, food, first aid supplies, and clothing.

The American Red Cross recommended having bedding, tools, emergency supplies, and special items on hand. The disaster plans for families included prearranged meeting locations in case of family separation and a communications plan which identified a family member or friend out of the immediate disaster area who could act as a hub for family members to report in to (American Red Cross, n.d.). The message from the first responder community and emergency management professionals has always been consistent regarding disaster preparedness. The International Pentecostal Holiness Church article titled *Family Preparedness for Disaster* states, "The primary responsibility to prepare for and respond to emergencies rest with individual members and families." In short, one should be prepared by developing a family disaster plan and when a disaster occurs, work the prearranged plan (International Pentecostal Holiness Church, n.d.).

This message has been repeatedly offered to the general public, but how seriously did the emergency response agencies take it from an organizational standpoint? Was there a false sense of security from the emergency response community? After all, first responders are always prepared…or are they?

C. COMMUNITY PREPAREDNESS POST 9-11

The events of September 11, 2001, have brought to light the true vulnerabilities within the nation and the communities that are sworn to aid in its protection. Terrorists' goals are to destabilize governments and panic citizens. Being prepared ahead of time can decrease some levels of anxiety and allow for a measure of control in the face of such events; this decreases panic and increases stability (Michigan State Police, n.d.).

While the United States has focused on civilian preparedness planning in the community the results have been less than stellar in some locations.

Some citizens feel emergency services are provided as a community service borne out of their tax dollars. Following the recovery efforts of September 11, state and local government renewed the emphasis for citizen preparedness. In 2002, during his State of the Union address, President Bush urged communities to join the new Citizen Corp and help strengthen American homes, neighborhoods, and cities: "My call tonight is for every American to commit at least two years—4,000 hours over the rest of your lifetime—to the service of your neighbors and your nation" (Chin, 2004, p. 15). This thinking is in line with grass root efforts at the local levels possibly being supported with the utilization of tax dollars.

The popularity of active citizen preparedness groups has significantly increased over the last few years. Organized programs such as the Citizen Corp along with programs like America Prepared, a non-profit organization have actively engaged communities nationwide that are seeking to increase awareness of available resources to assist with keeping families safer.

One of the more prominent initiatives in community preparedness would have to be the Community Emergency Response Teams (CERT), founded by Frank Borden in 1985 as he served as an Assistant Fire Chief with the Los Angeles City Fire Department. This program trains volunteers in basic skills which include fire suppression, hazard control, medical operations, and search and rescue. Volunteers are trained under the premise that in the event of a major disaster within their community, they would be the "first, first responders," able to organize relief efforts and aid the injured until

professional first response agencies arrived on scene. Interestingly, before September 11, 2001, most emergency service organizations had never seriously considered their response to a disaster the magnitude of those at the World Trade Centers, the Pentagon, and in rural Pennsylvania. Unfortunately, the results of this research indicate that few agencies have done much regarding preparedness efforts for multi-operational periods of incident deployment or support of first responder family members.

In 1993, the Federal Emergency Management Agency (FEMA) sponsored a nationwide CERT initiative to create a standardized curriculum for increased consistency among CERT students and instructors (Chin, 2004, p. 16). Even long standing crime prevention groups such as Neighborhood Watch were re-engaged. Eric Schultz, a project director of USAonWatch, (a national program created by the National Sheriffs Association to re-engage Neighborhood Watch groups), says his organization works closely with Citizen Corp Councils and supports the new and improved consistent CERT training (Chin, 2004, p. 16).

In January 2002, USAonWatch began operating as a Web-based program, with a goal of doubling the existing 7,500 Neighborhood Watch groups by December 2003 (Chin, 2004, p. 16). By mid-December 2003, the organization had enlisted another 8,200 programs across the country (Chin, 2004, p. 16). These initiatives all were designed to increase community awareness which could lead to stronger support networks that could possibly be leveraged toward first responder family member support.

D. PUBLIC SAFETY PREPAREDNESS POST 9-11

The fire service and other public safety entities, the National Incident Management System and the National Strategy for Homeland Security have many regulations, laws and standards that cover all aspects of suppression, special technical operations, and emergency medical services. However, none of these actually addresses the requirement for family member support of the first responder.

The National Strategy for Homeland Security mentions the need for a comprehensive national system to bring together and command all assets quickly and effectively. This strategy also notes the challenge of developing a seamless response plan

and capability due to different levels of bureaucracy (local, state and federal). The Federal Emergency Management Agency (FEMA) would seem the likely organization to develop broad based family support frameworks, however, the ability for state and local emergency response organizations to customize this framework based on their individual community would be critical for the success of such frameworks. The fire service is considered a consequence management provider. When terrorists strike, consequence management providers such as the fire department, police services, and emergency medical services (EMS) will have to respond and react. Each consequence or incident the responders manage is considered a learning experience as they continually take lessons away from each disaster, natural or man-made.

Gary Tokle, an assistant vice president for public fire protection for the National Fire Protection Association explained, "Responses to large-scale incidents typically are expansions of responses to incidents that responders see everyday" (Grow & Parker, 2002). Douglas Gillies (2002), in an article called "Changes in the Wind," acknowledged that on September 10, 2001, the United States *believed* that it had a world-class emergency response system in place. He stated, "We had been talking the talk, but we had not been walking the walk" (Gillies, 2002).

This concern with a lack of emergency responder preparedness relative to family member support goes back years prior to Hurricane Katrina and the World Trade Center attacks of September 2001. A major component of walking the walk would have to include family member support as part of emergency responder preparedness.

One case study reviewed was the 1989 earthquake that struck San Francisco and Monterey, California, fire service members expressed deep concerns over the safety and well being of their family members before, during and after their response to this incident. This natural disaster was a 6.9 Richter scale earthquake that killed 63 people while injuring over 3700; it also left up to 12,000 people homeless with an estimated 6 billion in property damage (Stover & Coffman, 1993). After the initial quake and during a series of aftershocks, officers of the Scotts Valley Fire Protection District noticed a level

of anxiety and apprehension among its emergency response personnel never before observed. This anxiety and apprehension was directly related to the unknowns regarding family members (Tranchina, 1991, p. 56).

One off-duty Scotts Valley firefighter who responded that day was given the sole responsibility of locating all family members of the on-duty crews. All family members were subsequently located with the exception of one little boy. The little boy's father was released from duty to aid in the search; his son was found in the care of his soccer coach. The ability to dedicate staff in family support efforts proved invaluable in this event. Since that time the members of this Fire Protection District have established a policy for communication by having family members either phone the fire station, report to the fire station or send word to the station regarding their whereabouts. The employees of this small Fire District are also encouraged to establish a plan with family members to assist with self-care during emergencies that may strike the community (Tranchina, 1991, p. 56).

With these family member concerns at the forefront of emergency scene decision making, the need to reduce anxiety and apprehension regarding responders' family members is imperative. The emergency response organizations that have developed family support plans generally have learned from experience. Miami-Dade Fire Rescue has well developed and comprehensive policies and procedures that cover a family support system for their members along with the hurricane natural disasters. After Hurricane Andrews, the organization established the family wellness unit with the primary responsibility of employee and family member accountability. Families utilize this unit for communication purposes and updates on loved ones. In addition, there are also the Crisis Management Briefings and, if applicable, the provision of debriefings for both employees and family members (Miami-Dade Fire Rescue Department, n.d.). As requirements as a provision of the organization's Pre-Impact Preparation, all members, sworn and civilian, must bring appropriate personal supplies when deployed to enable them to effectively perform their duties (Miami-Dade Fire Rescue Department, n.d.). Miami-Dade has taken a proactive stance with ensuring that its members and their families have been included in all preparedness efforts. This organization is more of the

exception than the rule when it comes to family member support; however, considering the region of the country and the propensity for hurricane related incidents, this would somehow be expected.

E. THE NATIONAL GUARD, RESERVE AND ACTIVE DUTY MILITARY MODELS

The lack of family preparedness within the emergency services community usually will focus on two main areas. How many resources are allocated into departmental preparedness for complex incidents with extended deployments and the general lack of preparedness within first responder families to be prepared for and self-sufficient during these extended deployments. The Ohio National Guard has determined that open honest dialogue is a critical component with the development of family member preparedness efforts. In its document, entitled *What You Can Do,* which states:

> Too often, family members deny the possibility of duty separation, and pretend it is not going to happen. Sometimes families avoid talking about things that bother or worry them. They are afraid that talking about things will make matters worse. In reality, open discussion provides family members an opportunity to clarify, define expectations, work on solutions, and better prepare for the possibility of extended deployments. (Ohio National Guard, n.d.)

Like the Miami-Dade Fire Rescue, the United States military has also taken family support programs very seriously. Frequent deployments are a fact of life within the military service. With approximately 50 percent of military members being married, the need for self sufficiency is critical (Ohio National Guard, n.d.). Military leadership does not want families to just survive, but there is an intentional effort to educate military family members on ways to utilize quality of life services and support (Department of Defense, n.d.). The Department of the Army explains the functions of a Family Readiness Group (FRG) as "soldiers and families benefitting from helping one another cope with the rigors of Army life" (Department of Army, n.d.). Today the Army defines a FRG as a company-level or battalion-level organization of officers, enlisted men, civilians, and family members who volunteer to provide mutual social and emotional support, outreach services, and information to their fellow soldiers and family members (Department of the

Army, n.d.). This program is an all-inclusive process that involves anyone with an interest in the unit. This process is also recognized as a moral obligation from the Army, directed at the best interest of its members.

The efficacy of such support within the military still has a long way to go. In September of 1999, a survey was conducted with spouses of Guard and Reserve members who were deployed under the presidential Reserve call-ups in Southwest Asia, Bosnia, and Kosovo. The survey revealed less than 36 percent felt they were well prepared and that they needed more timely and accurate information regarding the status of their loved ones.

Like the Army, the National Guard has taken family support into account. To adequately prepare with enhanced response capabilities to a possible terrorist act in the United States, the National Guard has developed Civil Support Teams. These teams were established to deploy rapidly as a resource to the local first responder incident commander in an effort to determine the nature and extent of an attack or incident. In addition, they also provide technical expertise on weapons of mass destruction (WMD) response operations and pave the way for the identification and arrival of follow-up state and federal military response assets (Hinga, 2004, pp. 134–137).

Active duty military organizations also have very extensive family support systems. All service branches' support systems have very similar missions that include real-time member tracking, communication capabilities, and enhanced ability to leverage the active duty member benefits package based on need. The Army has the Army Community and Family Support Centers'. The Navy has the Fleet and Family Support Division and the Navy Reserve Ombudsman. The Air Force utilizes the United States Air Force Combat Support and Community Services and the Air Force Reserve Family Readiness Office. The Marines version is the Marine Corps Community Services and the Marine Corp Reserve Community Services. The Coast Guard has its Coast Guard Ombudsman as its liaison between the families and the Commanding Officer with the Coast Guard Reserve Member, Family and Employer Support Offices serving reserve members (Military Health System, n.d.).

Each branch of the active duty United States military and its Guard and Reserve units has specific offices, personnel, policies and procedures and additional resources to lend support to families during pre-deployment, deployment, and post-deployment. These military organizations have multiple resources dedicated to serving the needs of the family members of those deployed for extended periods of time and can serve as effective models for first responder organizations.

F. CONCLUSION

Public safety, volunteer and military organizations must prepare for major event and incidents. This should include developing a system of support for the responders and their families, and for military organizations. If this can be accomplished, these organizations can deploy their human resources knowing that they have enabled this human capital to concentrate on the job at hand. The support of mission critical human assets is solidified by decreasing the anxiety and apprehension regarding their family members.

This area of preparedness benefits not only emergency responders by putting their minds at ease, but also the communities that are looking to these volunteers and professional responders for the essential lifesaving assistance needed during terrorist events and natural disasters. After analyzing these various preparedness models, it is presumed that all of the described models have some aspects that could be of value to a specified process for first responder family member support. It is a well understood fact that families of first responders and all Americans for that matter should be self-sufficient for at least the first 72 hours of any disaster, man-made or otherwise. Self-sufficiency should be the first step in a multi-layered approach, especially for public safety entities. The next steps should then be supported by a combination of public safety organizational direction, governmental (local, state and federal) support, non-governmental organizational (NGO) integration, and "mega-community" (faith-based, private sector, local businesses, etc.) involvement. The U.S. military models tend to follow this path, albeit with less detail. The military models demonstrate the utilization of superiors, peers, subordinates, civilians, family and the gamut of military resources made available to

support deployed members and their families (Department of the Army, n.d.). This model and/or variations of it seems to be a better fit for public safety organizations, especially considering the paramilitary structure ingrained in public safety entities. By utilizing the sworn oath of office with both military and public safety disciplines along with performing the mission at all cost, this could lead to the possible development of parallel processes to support deployed members and the families of both organizations.

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IV. INTERVIEW DATA COLLECTION FROM FIRST RESPONDER COMMAND OFFICERS

Those interviewed for this research were the first responders' commanders who had personal experience with a natural disaster or domestic terrorism. There was a wide range of thoughts and ideas based on the diverse nature of natural disasters and/or man-made terrorism that had been experienced by these commanders. They all agreed that local public safety organizations must do a better job of developing their family support functions and memorializing these processes within written policy and procedures.

The premise of the interviewees is if first responders are truly prepared for all hazards, they will be able to effectively mitigate disastrous incidents that are the negative impacts of nature and intentional acts of human beings. This preparation must include securing the well-being of family members and addressing how this process needs to be integrated into ongoing training exercises. During any crisis, first responders rely heavily on their training to instinctively transition into "action and mitigation" mode. By integrating the family support planning process into the training components, the likelihood that family support will become institutionalized into the culture of the organization is greatly increased. There was also wide based support among the interviewees of a public safety framework for developing support systems; however, this framework should not be to the detriment of each organization maintaining the ability to customize a system that is driven by the particulars of the types of natural disasters' that may be encountered within a particular region of the United States.

In the initial phase of the interviews, six questions were developed based on an attempt to glean information from local First Responder Command Officers (FRCO). These officers have had direct experience with weather-related disasters and/or acts of domestic terrorism. The interviews attempted to emphasize the plight of the first responder as rescuer/victim and to reveal case study perspectives of past practices and how these practices either negatively or positively impacted effectiveness of the affected first responder. The following are the questions posed during the interview data collection phase of this research and discussion of some of the responses.

A. FIRST RESPONDER COMMAND OFFICERS (FRCO) QUESTIONS AND RESPONSES

1. Question 1: General Thoughts and Experiences

General thoughts on experiences with a weather related or domestic terrorism incident where responder family issues were prevalent.

Forty percent of the respondents (FRCO-1, 3, 7, and 9) related this question specifically to natural disasters. Based on the region of the United States that these FRCO represented, natural disaster experiences molded their background with this subject. They talked about the specific need for advanced planning and also articulated that their organizations structured a "just in time" (as needed) process that included family member support as an after thought during the height of a particular crisis. A chief officer from a fire department in the northeast region of the United States responded regarding deployment during the 9/11 incident:

> At the time I had my wife, a young son of three, and a newborn who was three months old and a special needs child. That was the biggest eye opening event for me in terms of responding and trying to do my part as a member of FDNY [Fire Department of New York] and having my family having to operate by themselves.

This chief's information reflected that some public safety organizations are struggling with a system that truly supports their internal members and have yet to fully integrate family members of these responders. If there is a system, it mainly revolves around a communication process for call back services. These services are necessary when all available on duty forces have been deployed as the incident continues to grow, but do not truly reflect family member support.

Twenty percent of the respondents (FRCO 2 and 8) were able to engage this question from the perspective of domestic terrorism. The World Trade Center (WTC) attacks of 1993 and 2001 were major emphases of the interview responses from FRCO 2

and 8; they both mentioned the uncertainty and apprehension of the responding first responder forces. A great deal of the apprehension surrounded the unknowns of these events at the time of response.

There was some initial thinking that the 1993 attack was diversionary in nature; this thinking coupled with responder knowledge of secondary devices, was a great concern to forces on the scene. Both of these respondents voiced concern over the unknown length of deployment required to mitigate the 1993 WTC attack. From these respondents perspective, the 2001 attack exacerbated these concerns based on the obvious death and destruction of civilian members of the community. Once the towers collapsed and it was obvious that those charged with bringing calm to a chaotic situation were in trouble, these respondents reflected how the thought process automatically became focused on their immediate families.

Four of the interviewees (FRCOs 4, 5, 6, and 10) responded with concerns relative to their family members' well-being during regular responses within their respective communities. The respondents' perspective was that it should not be natural disaster or domestic terrorism that drives the need for family member support functions. The day to day operational impacts within a public safety organization also necessitates responder family member support functions.

The range of these functions could involve everything from effective communications to families and the community during incidents to the development of family member staging areas, mass prophylaxis, assistance with sheltering in place, and coordinated family member evacuations.

2. Question 2: Assistance from a Support Framework

How would a support framework have assisted your organization during or after these events or incidents?

The most common theme from this question involved the need for coordinated communications between the organization involved and family members of responders. One hundred percent of interview respondents related the desire of family members for

updated and real-time communication regarding the specificity of the incident. Forty percent (FRCO 2, 6, 9, and 10) spoke about responder wives attempting to coordinate a communicative process within their own group. This was done by cell phone and in some cases land line. It was also the perspective of the FRCOs that misinformation from the media lead to increased anxiety and apprehension within this group of wives. In addition, the FRCOs mentioned how the wives were often misinformed due to an overreliance on the rumor mill and unsubstantiated information.

A fire chief officer from the southeastern region of the U.S. suggested "Maybe the military model of family support would be a great starting point for family support, especially how the wives and children rally to support one another with direction from the organization. This would be very useful relative to accurate and updated information dissemination."

All of the respondents spoke regarding the need for a more robust critical incident stress debriefing process, (CISD) this process is designed to mitigate the adverse psychological impacts of a traumatic event by reducing the intensity and frequency of symptoms subsequent to the trauma, than what is currently in place within their organization.

There also was an identified interest for family integration into the CISD process along with dedicated mental health professionals, not just the peer defusing/debriefing process that most of their organizations had in place. There was consensus among most of the FRCOs as they reflected on the value of including their spouses and children in some form of talking through the issues of their loved one responding to incidents that had a significant impact on them. Studies have been conducted that reflect children and spouses can be subjected to post traumatic stress disorder by virtue of a loved one's response to significantly impactful incidents (Duarte et al., 2006, pp. 304–310).

One respondent (FRCO 2) spoke to the need for prearranged planning for notice and no-notice events. Having a current and applicable plan available for implementation will negate the just in time efforts that inevitably misses or leaves a component unaddressed.

3. Question 3: Increasing Effectiveness

How would responder effectiveness been increased with family support functions in place?

There was no quantifiable data provided by the respondents which related to increases in first responder safety, efficiency or effectiveness within their respective organizations due to effective family support plans. However, there was significant discussion from 80 percent (FRCOs 2, 3, 5–10) regarding their subjective thinking. The thinking was related to decreasing responder apprehension, which, in turn, increases responder safety, focus, and effectiveness.

4. Question 4: PTSD Impacts

Has there been any documented PTSD or drug/alcohol impacts within your organization?

Due to the sensitive and confidential nature of this information, all respondents expressed some reservation with inquiring within their respective organization what this data would reflect. This information would involve either medical documentation and/or sensitive personnel issues within their organization. Sixty percent of respondents (FRCOs 1-3 and 7-9) spoke to the benefits derived from their internal CISD process.

The collective thinking from the interview respondents centered around the value added proposition of having dedicated mental health professionals or the ability to enlist the services of mental health through the municipality's employee assistance program (EAP). This collective thought was balanced by the recognition of the need for budgetary support to engage a dedicated mental professional for the organization.

5. Question 5: In Place Family Support Systems

Does your organization currently have a system in place for responder family member support, if so, what does this system consist of?

The responses to this interview question were varied and wide in application. One of the respondents (FRCO 3) discussed the particulars of a family support system based

on the geographical and regional involvement with hurricanes. The organization that FRCO 3 is a member of has specific policies and procedures in place that address responder responsibilities and responder family member support functions.

FRCO 3 also communicated regarding the organization directives for training that integrated these policies and procedures into the table top training, white board discussions and practical drills that institutionalized this process into the organization's culture. FRCO 3 explained the standard operating procedures covered everything from personal responsibility (each member maintaining a "go bag" for rapid long-term deployment), internal communication processes (for real-time, updated communication for organization members and their families), pre-determined staging areas (for employee and family member mass evacuations), and an employee voucher system (allows for sustenance and other basic needs requirements in conjunction with the community support).

Eighty percent of the respondents (FRCO 1, 2, 4–9) expressed valid concerns regarding budgetary support for the development of such a comprehensive system. This group also spoke in consensus regarding their organizations "real-time" (as needed) development of support functions based on the particular disaster at hand.

They also spoke concerning being "lucky" as opposed to being good at diverting any long-term negative ramifications due to this "just in time" development and implementation of family support functions.

6. Question 6: What the Framework should Look Like

From your perspective, what should a first responder family member support framework look like?

The consensus of 100 percent of the interviewees was that the necessary requirement for all family member support systems to begin with the individual responders. This central theme involved having personal affairs in order (living wills, estate determinants, insurance beneficiaries) which would ease some of the burden in the event of a significant injury or line of duty death.

Another central theme relayed by the interviewees was prearranged family logistical preparation (bill payments, mortgage payments, banking). This was a major concern during the hurricane and tornado related natural disaster as brought forward by FRCOs 2, 6, and 7. Having "go bags" packed and ready for deployment in the event of call back was also an issue that the group felt was critical, and utilizing the military model of stand-by was encouraged. Seven of the ten respondents (FRCO 1–3, 7–10) advocated the need for predetermined staging sites for family members as the initial direction for family member evacuation. This group also discussed family member integration into any mass prophylaxis plan for pandemic or bioterrorism incidents. All respondents felt the need for all first responders to understand the need for 72–96 hour, stand-alone, self-sufficiency for their families that would be in place following any incident or event. It was discussed at some length within all of the interviews; there was an emphasis on first responders having practical experience with the value that this brings to community support, especially at the federal level.

There were also subjective discussions among this group that less than 40 percent of their organizations had to go bags or 72–96 hours worth of self-sufficiency as recommended by local, state and federal emergency management professionals.

B. INTERVIEW DATA COLLECTION FROM NPS/CHDS COHORTS 0803 AND 0804

The author conducted personal interviews with three members of public safety organizations that are currently enrolled in the Naval Postgraduate School's Center for Homeland Defense and Security (NPS/CHDS) Cohorts 803 and 804 (FRCOs 3,6, and 9). Attendees were asked to share their views on public safety and first responder family member support, and whether or not this support necessary for effective on-scene emergency mitigation, and what is currently being utilized in their respective organizations relative to family member support? Several other points were discussed regarding the specific incidents that dictated the utilization of a family support system. These specifics ranged from wildfires to snowstorms to man-made terrorism. A couple of central themes resonated throughout the interviews with cohort members.

- Funding and resource allocation to adequately develop and implement a comprehensive family member support system for first responders.

- Collaborative communication that engages the organization, members, families, and any other available resource that could be leveraged to adequately address comprehensive planning for first responder family member support.

In addition to voicing the above mentioned concerns, all members of the cohorts were concerned about public safety entities and the perceived lack of inclusion in homeland security strategies.

The need to include family member support functions into standardized training and the development of national standards as a starting point for organizational consideration were also voiced as concerns.

Moreover, there was mutual consensus from the first responder command officer group and the NPS/CHDS cohort group that spoke about the mega-community concept of leveraging all available resources for development and implementation of a family support process. This mega-community would consist of public safety organizations, local municipalities, businesses, the religious community, non-governmental organizations, non-profit organizations, members and families. Increased collaborative and inclusive communication throughout the community would increase the viability of an all-inclusive collaborative process. The inclusion of public safety labor organizations was also widely agreed upon for the initial development of such processes, this was due in part to the fact that many public safety labor organizations had already obtained 501c3 status (not-for-profit). This status increases the ability of an organization to solicit donations to support family member support functions.

C. FINAL INTERVIEW ANALYSIS

In the *Journal of Emergency Medical Services* article entitled The Stress Paradox, author Bruce Siddle argues the following:

> The increased effectiveness and efficiency with emergency first responders involve operational requirements with precision but not in one single area of performance, to include:

- Precision (analytical) processing-the ability to interpret all of the perceptual sensory information into a single working hypothesis of problems and solutions.

- Precision based pretreatment-the preparation of tools, supplies and equipment that are stress compatible. The coordination of equipment should compensate for stress-induced visual distortions.

- Precision in demeanor-the first responder must exude an aura of command presence, confidence, competence and calmness (Siddle, 2008, p. 28–32).

Siddle describes the processes that facilitate an ability to interpret all perceptual data that is critical for problem solving (Siddle, 2008, p. 28–32). This problem solving matrix is accelerated with knowing that family member safety and well-being had been secured.

The above mentioned attributes are absorbed by witnesses and bystanders; they go a long way with scene control, communication, and cooperation.

The military model for public safety family member support was referenced on more than a few occasions with both groups during the interview process. With most public safety entities following the paramilitary model of chain of command and structure, this was a natural progressive thought process without looking to reinvent the wheel. Some of the overriding themes from the interviews included:

- Funding concerns at the local level.

- Ensuring governance is in place for family member support through established standard operating procedures and guidelines (SOP/SOG)

- Ensuring that family member support begins at home with the responders

- Integrating and expanding the role of mental health professionals within the CISD model to include opportunity for spouses and children

- Ensuring a robust internal communication process is in place to inform and update responders and the immediate family members of those deployed

- Engagement of the “mega-community” concept that would leverage the resources of all community partners to include private sector, businesses, churches, non-governmental organizations, municipalities, labor organizations, the public safety organization members and their families.

The data gleaned from this interview process validated the need for such a plan and generated ideas toward the development of comprehensive responder family support functions. However, the quantifiable support relative to increased operational effectiveness on the scene of an emergency was lacking. This lack of data should be the basis for additional research.

V. SURVEY DATA COLLECTION FROM FEDERAL/STATE EMERGENCY MANAGEMENT REPRESENTATIVES

The following information in this chapter outlines survey responses from federal and state emergency management professionals. The respondents were selected based on the diversity of roles and responsibilities at five of the 10 Federal Emergency Management Agency (FEMA) regions.

These federal and state subject matter experts were also chosen based on their direct operational involvement during weather related emergencies or domestic terrorism. The level of expertise of the respondents is engaged at either the planning and preparedness efforts or during the actual "boots on the ground" operational deployment. There were 10 survey respondents, selected based on the geographical diversity of their areas of responsibility. As with the interviews conducted with First Responder Command Officers (FRCO), there were a wide range of thoughts concerning the diverse nature of natural disasters and/or man-made terrorism as experienced at the state and federal levels.

A. OVERVIEW OF FEDERAL AND STATE REPRESENTATIVES RESPONSES

These Federal and State Representatives (FSR) all agreed that local public safety organizations must do a better job of developing their family support functions at the local level and institutionalizing these support functions in both policy and procedure. 100 percent of the respondents (FSR 1–10) expressed to some degree the idea that during any crisis, first responders rely heavily on their training to instinctively transition into "action and mitigation" mode.

Again, the premise of the author of this thesis is if first responders are truly prepared for all hazards they will be able to effectively mitigate disastrous incidents whether natural occurrences or the intentional act of human beings.

This preparation must include securing the well-being of family members and how this process needs to be integrated into ongoing training exercises.

The integration of family support planning processes into training components which consist of table top exercises, white board discussions, or practical hands on evolutions, will increase the likelihood of family support becoming institutionalized into the culture of the organization. There was also wide-based support among those surveyed for a public safety framework to assist with the development of family support systems. However, this framework should not be to the detriment of each organization maintaining the ability to customize a system that is driven by the particulars of the types of natural disasters' that may be encountered within a particular region of the United States.

In the initial phase of the surveys, 10 questions were developed in an attempt to glean the thoughts and perspectives from the Federal and State Representatives. This survey was delivered online to five FEMA representatives and five State Emergency Management representatives. Collectively, these 10 points of contact were chosen based on the diverse nature of professional experience dealing with natural and/or man-made acts of domestic terrorism. There was a 100 percent return rate of the online survey as all of the solicited respondents chose to engage the survey. These dedicated professionals have had direct planning, preparedness and operational experience with natural disaster or man-made acts of domestic terrorism. The survey was developed in conjunction with the interviews in an attempt to emphasize the federal, state and local planning and preparedness efforts relative to emergency response deployment (see Appendix B). This data collection methodology was driven by an interest from the respondents to impart case study and after action report perspectives on "best practices." This case study and best practice approach would then be evaluated regarding positive or negative results, and how these results impacted emergency response and mitigation efforts.

The federal and state overview mentioned previously along with the following detailed data helps to frame the context of information from this particular level of emergency response professional.

B. FEDERAL AND STATE RESPONDENT QUESTIONS AND ANSWERS

Below are the questions posed to the state and federal emergency management professionals. These questions are followed by highlights of their responses and some

discussion. Ten questions were asked that ranged from general thoughts to perspectives on what a support framework for family members should entail.

1. Question 1: General Thoughts

What are your general thoughts on the need for a first responder family support framework? Specifically, what are your thoughts regarding this framework and your experience with the rescuer/victim first-responder?

All of the respondents (FSR 1–10) agreed that this type of a proposed support framework is long overdue. There was also discussion in response to this question (FSR 6) regarding the cumbersome nature of a framework as opposed to a "Planning Guidance" possibly to be published by the federal government, to be utilized at the state and local levels. All respondents (FSR 1–10) were in agreement that removing the state and local perspective from the development of this guidance would be a mistake, as would be to not allowing the state and local levels the ability to massage this guidance based on the particulars of their communities. Twenty percent of the respondents (FSR 3 and 7) voiced concerns regarding the dual (two-parent) households where both parents and adults are engaged or deployed in an emergency response. Both of these respondents related experiences where once they were deactivated from an emergency, they had to cope with the "disaster after the disaster" trying to normalize their lives after deployment. They recommended placing emphasis on this area with the development of any type of framework or guidance.

2. Question 2: Frameworks

Do you think this proposed framework should encompass natural disasters (weather related), domestic terrorism (WMD, CBRNE) and pandemics (avian, swine flu), or should separate frameworks be developed based on the inherent differences between these events?

One hundred percent of the respondents (FSR 1–10) agreed with maintaining the all-hazards approach which is prevalent in current federal, state and local planning processes.

Thirty percent of the respondents (FSR 2, 4, and 5) suggested specific annexes be developed to address the inherent differences in the incidents of events. Also, 60 percent of the respondents (FSR 1-4, 6, and 7) discussed the need for identifiable "triggers" for plan rollout and implementation. This would eliminate implementation for the non-emergency services such as the four-inch rain storm or 20 mile per hour winds, and ensure the plan would be reserved for large/scale catastrophic incidents.

3. Question 3: Emerging Issues

What are the emerging issues that would shape development of a first-responder family support framework?

One of the respondents (FSR 5) articulated concern that this effort toward a framework or guidance for first responder family member support could be seen as another planning requirement forced on local government that is already overwhelmed with plan development. Upon further questioning with FSR 5, it became evident that he was facing mandates from his supervisor and organization to revise and redraft all of the emergency operational and contingency plans for the organization.

This thesis author's opinion is that this particular task assigned to FSR 5 had grown in scope, and he was feeling overwhelmed; therefore his response could have been [was likely] attributed to the enormous workload he was currently facing.

Forty percent of the respondents (FSR 4, 7, 9, and 10) recommended securing long-term child care, shift change and adequate relief factors, proper accommodations that would minimize sleep deprivation, long term household finance management, and home maintenance. This group of respondents wanted to ensure that it was understood that these issues contributed to family member stress, especially when spouses are left alone during extended deployments.

Fifty percent of respondents (FSR 1-3, 6, and 8) communicated that traditional first responders (fire, police, EMS) were just a faction of the total first responder population who should be considered within this family support concept. Other response

groups such as utility workers, public works employees, environmental emergency response professionals, and other technical specialists who may be deployed should be factored into this type of planning process as well.

4. Question 4: Strategies to Implement

What strategies can public safety leaders implement to address the emerging issues with the development of family support plans?

Sixty percent of the respondents (FSR 2–4, 6, 8, and 10) to this question expressed an interest in federal levels of certifications (pro-board certifications) that would clearly delineate who and what positions would fall under the auspices of "first responder."

It was also noted that there is movement with a blue card certification process for first responders which is parallel to the red card wild land firefighter certification process.[1] This certification would place a significant level of responsibility on the individual first responder and could be a critical component to the support and family support initiatives.

However, certification tracking and the establishment of a nationwide certificate tracking database could enhance the development of support systems (family and otherwise) and serve as a checks and balance by increasing emergency scene proficiency through a clear identification of what responders are current with what particular skills and abilities, and reducing the instances of first responder "self-deployment" to emergency scenes.

Public safety organization development of checklist that would include marital status, children, medical status of family members (special needs), and homeownership among other items were discussed as areas of interest from 20 percent of respondents (FSR 1 and 3). These checklists would be utilized to ensure all facets of family/spousal support are addressed relative to the deployed member. All of the respondents (FSR 1–

[1] Red Card is a wild land Interagency Incident Qualification process that identifies various levels of certification based on classroom and field training. The respondents suggest continued development of a similar process (blue card) for structural firefighting and all-hazards incident response.

10) advocated the need for the integration of plans, especially as it impacts state and local Emergency Operations Plans (EOP), Hazard Mitigation Plans, and Continuity of Operations Plans (COOP). The integration of plans would ensure resource deconfliction and the allocation of resource support for both the community and responder. 100 percent of responders (FSR 1–10) also raised the issue of the need for an expansion of resources. After further questioning, it was discovered that this was meant to reflect an effort to leverage the total community to include churches, businesses, non-profits, nongovernmental organizations (NGO), schools, and universities.

This mega-community effort (which could include vouchers from Home Depot/Lowes, sheltering assistance from the school system and the Red Cross, donations of food and clothing stables from non-profits, etc.) would be an attempt to pull any available resource within a tracking and availability system for a coordinated and timely deployment to support first responder families during an incident or event.

5. Question 5: The Role of Public Safety and Funding

How could the role of public safety be expanded to include and support the directive for first-responder family member support?

All (FSR 1–10) respondents agreed on the need for local public safety organizations to lead this initiative based on local community need and understanding the demographics of their respective organizations. There was interest from all respondents relative to governance and/or policy development to ensure priority within the organization; however, if this governance is mandated without budgetary support, the entire process will fail miserably. An unfunded mandate, especially during these critical economic times, would doom any efforts for long-term sustainability with regard to the family support efforts.

6. Question 6: Leveraging the Community and Private Businesses

How could the community and private businesses be leveraged to support, implementation and maintenance of a first-responder family member support framework?

Twenty percent of respondents (FSR 6 and 10) suggested the utilization of public service campaigns to announce the family support initiatives and generate grass root support from various sponsors. Banking on the honorable and positive view regarding the support of first responder agencies, these campaigns could reap enormous benefits (monetary, logistical, supplies, tools and equipment, etc.) that could be leveraged for integration into support function planning. There were also comments from 40 percent of the respondents (FSR 2-4 and 9) concerning the "window of opportunity" which is rapidly closing in the post 9/11 world. This window was described as the "hero" mentality bestowed upon the fire and police service after the attacks on the World Trade Centers.

FSR 2–4 and 9 mentioned the graft, theft, bogus charitable organizations, and a lack of non-profit organization oversight as it relates to donations. Immediately after 9/11 and Hurricane Katrina, there was a massive outpouring of support and sympathy for all responders and victims of these tragedies. Unfortunately, there have been quite a few documented cases of fake charitable programs, theft of funds from the donations, and individuals prosecuted based on malfeasance and personal gain from publicly solicited contributions. This violation of public trust has resulted in a reluctance to contribute to charitable organizations that support public safety first responders.

As the nation begins to move past both of these catastrophic events, the graft and corruption at all levels have diminished.

This group felt that it would take a monumental effort to recapture the community trust that would lead to successful efforts in the area of charitable contributions. One hundred percent of the respondents (FSR 1–10) re-emphasized the concept of engaging the mega-community raised in question four.

7. Question 7: Tangible Benefits

What do you feel would be the tangible benefits to first-responders, public safety organizations, and municipalities relative to the implementation of a proposed support system for first-responder family members?

One hundred percent (FSR 1–10) of the respondents to this question thought that increases in safety and efficiency on an emergency scene would be a direct outcome of increased support for responders and their family members. Based on the vast range of experience of the survey respondents, this general thinking was coupled with the first hand knowledge of operational response and the anxiety/apprehension of responders along with numerous "close calls" and "near misses" this group had witnessed.

Other thoughts revolved around the tenure and longevity of responders who were happy, productive, and well cared for and how that, in turn could translate to financial gains for the organization in terms of reduced worker's compensation claims. A reduction in sick time usage and reductions in health care benefits utilized were also mentioned by 40 percent of the respondents (FSR 3, 6, 7, and 9).

Twenty percent of the respondents discussed an increase in the seamless "continuity of operations" with responders who know that their families are safe and secure. When this is the case, the respondents felt the level of concentration and focus with on-scene emergency mitigation are significantly increased. Again, this thinking is based on the idea that increased family support will equate to increased on scene emergency operations.

New Orleans Police and Fire Departments personnel were referenced by 60 percent of respondents (FSR 1-4, 7, and 10) with regards to their reluctance to fully engage, refusing to report, going "absent without leave" (AWOL), and abandoning their post or assignment during the initial onset and subsequent response efforts during Hurricane Katrina. Interestingly, the above listed concerns were less of an issue during the World Trade Center attacks and the Oklahoma City federal building bombing; this was probably due to the toll on human life and the loss of many first responders' homes and property experienced during Hurricane Katrina.

8. Question 8: Obstacles to Implementation

From your perspective, what would be the obstacles for implementation of such a framework?

One hundred percent of respondents (FSR 1–10), raised the issue of the financial requirements and the budget implications of support functions. There was also discussion regarding how many public safety organizations have not solidified the support functions for their members, let alone the inclusion of the family members. With every public safety organization being asked to do more with less, the budgetary concerns were clear. There is a need for funding that supports dedicated mental health professionals, community partnerships that engage the mega-community process, overtime to support members engaged at different levels in the support capacity, and "set aside" funds also known as "rainy day" funds for the unplanned and unforeseen financial needs. In order to truly institutionalize a member support system that includes family members, the process has to include budget support and governance in the form of policy or procedure. This group also felt that any unfunded mandates would serve as a recipe for failure regarding any type of support functions.

Forty percent of respondents (FSR 2, 6, 8, and 10) spoke about the challenges of integrating the mega-community concept which would involve the willingness of the private sector and other entities to engage in dialogue that leads to signed, sealed and delivered intergovernmental agreements, memorandums of understanding and other pre-agreed upon collaborative partnerships.

Thirty percent of respondents (FSR 1, 4, and 5) felt that these issues of budgetary impacts, doing more with less, and the internal/external partnerships were based on the current economical situation in the United States.[2]

Limited resources, diminishing profit margins, scarce grant funding, and minimal community donations would all negatively impact the mega-community involvement of non-profit organizations, churches, private businesses, and non-governmental

[2] Current economic situation in the United States 2007–2009, involve housing market decline, tax base decline, governmental rescue of the auto industry and double digit unemployment.

organizations. There were varying degrees or response relative to the issue of governance. All respondents (FSR 1–10) felt that the Federal Emergency Management Agency (FEMA) could better serve the state and local emergency responders by developing a family support planning guide for public safety and first response organizations. This planning guide could then be utilized by the respective organizations, massaged and re-formatted to fit their particular organization and community. One of the respondents (FSR 6) voiced concern regarding labor union engagement with these processes, especially within public safety. This concern revolves around the political power some labor organizations yield and how this could be manipulated by the union to dictate policy within the organization. The emergence and involvement of police and firefighter union locals has grown significantly within the last few years. This emergence has catapulted beyond welfare of members and working conditions. It has grown to actual involvement with policy development with every solid public safety leader understanding the relevance of having these members at the table and engaged in organizational development.

9. Question 9: One Size Fits All?

Could a "one-size fits all" approach be taken toward this initiative, or would individual systems be necessary per discipline (fire, police, EMS)?

All respondents (FSR 1–10) were in favor of separate support functions developed based on the inherent differences in mission between police, fire, and emergency medical services.

This group also spoke to the need for the development of different annexes to address the "all-hazards" approach within each discipline (fire, police, EMS), with support functions developed for both responder and family member.

Forty percent of respondents (FSR 2–5) also spoke to community and organization size being utilized as a factor when determining this "one-size fits-all" approach. This group also stressed that this particular approach may work better for some communities and public safety organizations based on the numbers and streamlining any process development. These thoughts were aligned with previous indicators that the

federal government would only produce the planning guide while allowing state and local communities to customize their support planning process.

10. Question 10: What the Program would Look Like

If a support framework for first-responder family members was established, from your perspective what would this program look like?

Thirty percent of the respondents (FSR 5, 8, and 9) to this question referenced the need for either the federal government (FEMA) or another regulatory agency such as the National Fire Protection Association (NFPA) or the Occupational Safety and Health Association (OSHA) to maintain compliance oversight and responsibilities to draft planning guidelines for family member support functions.

Forty percent of respondents (FSR 1, 4, 7, and 9) drew parallels with family support functions of the military. This parallel support component could include psychological support through spouses united and coordinated for the cause; agreements with local merchants where first responder family members could procure groceries, needed supplies, etc. … at a more cost effective rate (akin to the military base exchange or commissary); and social welfare programs with social and health service professionals available for real-time interaction with families of deployed first responders.

Eighty percent of respondents (FSR 2-6, 8, 9 and10) referenced basic components of a support framework including a call-down phone list for responders which would include current and up-to-date contact information on all family members associated with that particular responder. This group also communicated need for the development of special pre-arranged, pre-located shelters specifically for the mass evacuations of first responder family members. 40 percent of this group (FSR 1, 4, 7, and 9) discussed setting up a transportation pool within the public safety organization that could be utilized for the pick-up and transport of family members as it relates to mass evacuations. 30 percent of the responses to this question (FSR 4, 7, and 10) would like to see the inclusion of family members regarding mass prophylaxis during a pandemic or bio-terrorism incident.

C. FINAL SURVEY ANALYSIS

As with the data gleaned from the interviews conducted with First Responder Command Officers (FRCO), the Federal and State Representative (FSR) group also suggested the military model as a solid point of reference for any overarching guidelines for first responder family support systems. Again, this thinking is in-line with the paramilitary organizational structure of most (if not all) public safety entities. Overriding themes ran parallel to those in the FRCO group to include:

- Funding concerns at the local level.
- Ensuring governance is in place for family member support with standard operating procedures and guideline development
- Ensuring that family member support begins at home with the responder
- Integrating and expanding the role of mental health professionals within the CISD model to include opportunity for spouses and children
- Ensuring a robust internal communication process is in place to inform and update responders and the immediate family members of those deployed
- Engagement of the "mega-community" concept that would leverage the resources of all community partners to include private sector, businesses, churches, non-governmental organizations, municipalities, labor organizations, the public safety organization members and their families.

This thematic analysis completely identified the need and desire for, and interest in, the development of increased support for responders and their families. This analysis will also contribute to the on-going discussion regarding necessary components for a solid, comprehensive framework. The central claim of the thesis argument is that first responder effectiveness can be enhanced by the development and implementation of a comprehensive plan that addresses the well-being and security of family members, especially for the rescuer/victim first responder. As identified through the FRCO interviews and this analysis of FSR surveys, there was little if any quantifiable or empirical data that support increased operational effectiveness within the federal, state or local emergency response groups. There is a consensus of belief that any increases in

responder support (individually and collectively with family inclusion) can only enhance scene safety and focus the efforts of emergency disaster mitigation. The data and analysis produced by the interviews and surveys conducted for this thesis support the argument's additional claims that emotional well-being within the first responder community should be a high priority. The analysis of interviews and surveys also support the inclusion of the "all-hazards" approach with support planning and development.

The conclusions drawn from the analysis of interviews and surveys point to increases in funding, mega-community support, an all-hazards approach, and the military as a model for moving the initiative of family member support forward within the public safety arena. The author of this thesis recommends additional research is conducted to seek out quantifiable and empirical data to support increases in responder safety and levels of effectiveness that is a direct outcome of responder family member support and well-being. These increases in first responder safety and effectiveness during emergency deployment should reflect this enhanced model of responder support that is totally inclusive of immediate family members.

The author of this thesis strongly advocates the implementation of any model that reflects increased first responder family member support.

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VI. FIRST RESPONDER FAMILY SUPPORT SYNOPSIS

This chapter will outline some of the relative impacts as identified through the emergency response efforts of September 11, 2001. This discussion will include significant research regarding the benefit/value of critical incident stress management (CISM) and critical incident stress debriefing (CISD). There has been a huge emphasis placed on the desired results of CISM and CISD. The mental health benefits that both these processes involve are currently being questioned regarding their efficacy.

In the span of the four years (2001–2005) after the September 11, 2001, terrorist attacks in New York City, 3,000 firefighters retired from the Fire Department of New York (FDNY). This is almost twice the number of firefighters who retired in the previous four-year period (CDC, 2004). Due to the unique circumstances of the 9/11 attack, these retiring FDNY firefighters were dealing with multiple challenges simultaneously. Many were still grieving the extraordinary loss of family, friends, and co-workers. Some were suffering from an enduring level of trauma-related physical injuries and psychological distress; this contributed to the increases of up to 40 percent in early retirement applications (CDC, 2004). Many were also experiencing difficulties related to the transition of their roles associated with retirement (CDC, 2004). General population studies have suggested that unexpected retirement may increase the anxiety and depression, particularly for those that retire on the heels of an incident of national or international significance (Touhy, Knussen, & Wrennall, 2005, pp. 202–210). These studies reveal that job-related psychological retirements can exacerbate the need for increased levels of support for public safety members and their families. Most public safety employees think of their work as a calling, rather than just a job. This is due to the passion and genuine concern for the human condition that most, if not all, public safety personnel bring to the job. It can be considered a thankless job at times, and no one is in it because of the money. There is usually an innate drive that "calls" one to the profession as a public safety member. Most public safety members want to continue working for as long as possible, and those that do retire usually find themselves engaged in a second career that revolves around serving mankind in some capacity.

These challenges, along with the deterioration of social support are well-known risk factors for mental health problems that can lead to an exponential growth of self-destructive behavior and thoughts of suicide (Touhy et al., 2005, pp. 208–212).

In August and September of 2005, Hurricanes Katrina and Rita made landfall in the United States, passing within miles of New Orleans, Louisiana. Heavy winds and rain damaged and breached levees protecting the city. These levee breaches resulted in flooding of up to 80 percent of the city, with water reaching a depth of 20 feet in some areas (Knabb, Rhome, & Brown, 2005, pp. 23–30).

When the hurricanes made landfall in New Orleans, more than 600 career firefighters worked for the New Orleans Fire Department (NOFD) (M. Sevelle, personal interview, April 9, 2009). Because of the flooding in sections of New Orleans, a number of fire stations were closed and relocated to temporary headquarters until the floodwaters receded (M. Sevelle, personal interview, April 9, 2009). During and after the hurricanes, firefighters participated in rescue and recovery activities and also continued normal fire suppression duties. Because of the vast devastation and limited personnel, firefighters worked long hours, and many, if not all were separated from their families (M. Seville, personal interview, April 9, 2009). Following the hurricanes, reports if injuries, physical illness, and psychological strain among the NOFD personnel prompted the National Institute for Occupational Safety and Health (CDC, 2006, pp. 456–458) to conduct a health hazard evaluation (HHE) of firefighters.

Because public safety first responders are relied upon to provide many of the emergency life saving services during and following a disaster, it is essential that this workgroup remains healthy. Many studies have identified predictors for major depression, such as high levels of physical and mental stress, sleep deprivation, and low organizational morale among first responders after response to natural disasters or incidents of terrorism (Fullerton, Ursano, & Wang, 2004). Little is known about the relationship between depressive symptoms and physical symptoms among first responders after a natural disaster or terrorism.

The negative aspects of weather related natural disasters and incidents of terrorism have been proven to have indirect psychological impacts on children and other family members of public safety employees who are directly impacted by events (Duarte et al., 2006, pp. 305–306). Due to work schedules of police responders which range from eight, 10 and 12 hours in duration and the 24–48 hour shifts for firefighters, spouses and other family members are susceptible to indirect negative psychological impacts related to loved ones who work in public safety. Some of this is due to the uncertainty and unknown related to a particular call and outcomes of that call. Following the hurricanes, the NOFD received anecdotal reports from firefighters about health symptoms suggestive of depression and anxiety including physical health symptoms. These anecdotal reports were attributed to firefighters who were dealing with work-related stressors, such as extended working hours; sleep deprivation, violent threats from the stressed community members, and lack of communication with co-workers. However, there was no data or statistics to support these anecdotal reports. Many also experienced personal stress such as the displacement of family, destruction of homes, and communication failures with immediate family (M. Seville, personal interview, April 9, 2009).

Immediately after the WTC attacks, public safety employees assigned to "ground zero" expressed concern regarding the hazardous working condition and instability of the environment; these concerns were muffled and muted due to the gravity of the situation of operating in both rescue and body-recovery mode (T. Currao, personal interview, April 8, 2009). Any emergency operation that entails both rescue and recovery is emotional taxing, especially if it involves rescuing and recovering members of the responding public safety organization.

Responses to extraordinary events like massive natural disasters and terrorism incidents may provoke a number of physical and psychological reactions. Many of the symptoms first responders experience may be normal and reversible reactions to a traumatic event. However, to better prepare for future disasters (weather related or man-made), it is important to understand the patterns of occupational health symptoms that may result from responding to such events. Efforts aimed at reducing psychological and physical strain among emergency responders before, during and after responding to

disaster will benefit preparedness against the consequences of natural disaster and incidents of terrorism. There have been some challenges regarding the efficacy of Critical Incident Stress Management (CISM) and/or Debriefing (CISD) for public safety members who have responded and engaged in emergency scene mitigation, rescue and recovery efforts. The following details information that challenges the current CISM/CISD models.

A. CISM/CISD: A HEALTHY ALTERNATIVE?

Critical Incident Stress Management is an intervention protocol developed specifically for dealing with traumatic events. It is a formal, highly structured and professionally recognized process for helping those involved in a critical incident to share their experiences, vent emotions, and learn about stress reactions and its symptoms.

Critical Incident Stress Debriefing is a proactive intervention involving a group meeting or discussion about a particularly distressing critical incident. Based on the core principles of crisis intervention, the CISD is designed to mitigate the impact of a critical incident and to assist the persons in recovery from the stress associated with the event.

The initial concern over the effectiveness of crisis intervention "debriefings" began in relevant literature with the publication of two Australian studies (Kenardy et al., 1996, pp. 37–49; McFarlane, 1988, pp. 30–39). McFarlane (1988, pp. 30–39) reported on the longitudinal course of posttraumatic morbidity in the wake of brush fires (Kenardy et al., 1996, pp. 37–49). One aspect of the study found that acute posttraumatic stress was predicted by avoidance of thinking about problems, property loss, and a failure to attend undefined forms of psychological debriefings.

However, chronic variations of posttraumatic stress disorder were best predicted by premorbid, non-event related factors such as a family history of psychiatric stress disorders, concurrent avoidance and neuroticism, and a tendency not to confront conflicts (McFarlane, 1988, pp. 30–39). More specifically, a delayed distress group who received undefined "debriefings" later suffered higher levels of posttraumatic distress; however, they also had higher premorbid neuroticism scores and greater property loss during and after the brush fire event. These factors were considered to be causally and inextricably

intertwined with the adverse outcomes; nevertheless attribution of the adverse outcome has sometime been inferred to have singularly arisen from the unspecified "debriefings" (McFarlane, 1988, pp. 30–39).

Kenardy and his colleagues conducted an investigation that purported to assess the effectiveness of stress debriefings for 62 "debriefed helpers" as compared to 133 who were apparently not debriefed subsequent to an earthquake in New Castle, Australia (1996, pp. 10–16). This study is often cited as evidence for the ineffectiveness of crisis intervention debriefings. The debriefed group within this study presented with more severe traumatic stress scores at 13 months; however, the authors pointed out "we were not able to influence the availability or nature of the debriefing…" (Kenardy et al., 1996, p. 39). The authors assumed that all subjects in this study who reported being debriefed did in fact receive posttraumatic debriefing services. It should be noted that in fact, neither Mitchell's small group crisis intervention model known as Critical Incident Stress Debriefing, nor Dyregrov's model known as Psychological Debriefing (PD), had been taught to frontline rescuers in Australia at the time of either of these studies (Everly, 2002, p. 6).

These two studies aside, the primary scientific foundation for more recent criticisms of early crisis intervention, especially debriefing, can be found in the Cochrane Library's Cochrane Reviews. Citing as evidence the results of the Cochrane Library Review of random assignment and selected derivative reviews (Litz, Gray, Bryant, & Adler, 2002, pp. 112–134).

Most if not all of these Cochrane Review authors have reached the conclusion that early psychological intervention (especially debriefing) is ineffectual and may cause harm to some. A few of these individuals have suggested that early intervention after disasters and mass violence should be discontinued in deference to waiting 30 days post trauma and prescribing 4–12 sessions of cognitive behavioral therapy (CBT) (Litz, 2002, 2002, pp. 112–134). Reasonable assumption can be derived from the Cochrane Review suggesting that a single session individual debriefing did not reduce psychological distress, nor prevent the onset of post traumatic stress disorder.

Also, that there is no current evidence that psychological debriefing is a useful treatment for the prevention of PTSD after traumatic incidents and compulsory debriefings of trauma should cease. There are numerous other studies conducted such as those reflected in the *Disaster Mental Health Response Handbook*;

the National Institute of Mental Health in conjunction with the U.S. Department of Health and Human Service, U.S. Department of Defense; U.S. Department of Veterans Affairs; U.S. Department of Justice; and the American Red Cross, that all reflected the notion that neither CISM, CISD or any form of PD was recommended as an early intervention practice (National Institute of Mental Health [NIH], 2002). In the document, *Mental Health and Mass Violence: Evidence Based Early Psychological Intervention for Victims/Survivors of Mass Violence, A Workshop to Reach Consensus of Best Practices,* nearly 100 experts were polled and the only dissenting voice was from Dr. G. Early. Dr. Early is a strong proponent of public safety health and wellness, and the concept of ineffectiveness regarding CISM and CISD flew in the face of conventional wisdom (NIH, 2002). This researcher agreed with Dr. Early's perspective and crafted the Scottsdale AZ Fire Department Critical Incident Stress Management Program which includes dedicated mental health professionals. was conducted by the author of this thesis regarding this topic and the efficacy of mental health support relative to responder and family. The following indicate why CISM/CISD may not be helpful:

- May interfere with natural psychological processing (avoidance and intrusion).
- May cause personnel to bypass personal support system.
- May cause personnel to feel that they were "healed" by the CISM/CISD session.
- May interfere with natural environment of the organization.
- May lead people to expect that they will suffer post-traumatic stress, and that this may be enough to trigger psychological problems after an incident.
- Talking through the event might itself add to the trauma for some survivors/victims (Bledsoe, n.d.).

Firefighters and emergency medical technicians/paramedics are resilient by nature. Most, if not all, of these individuals are "type A" personalities and are actions oriented. Couple this with intense and repetitive training and they will develop resiliency and techniques that promote this resiliency. As a stress management technique pubic safety leaders must recognize that different people have different people coping mechanism and let them maintain as much control over their stress response as possible. Stress is difficult to treat after exposure to a traumatic event, and all personnel must learn to develop good stress management techniques. Most stress in EMS and the fire service is not from major events but from the day-to-day hassles of the job such as issues with pay, equipment, dealing with the public, administrative concerns and work hours. Public safety entities that continue to coordinate and run tactically sound incident command and control, within well-managed, high performance organizations tend to have reduced day-to-day hassle and related stress. Public safety organizations should look to provide applicable and objective-based training, while emphasizing life-long health and wellness programs. This has the capacity to reduce personal and professional stresses among members of the organization exponentially.

The following is a rational approach for mental health support for public safety organizations:

According to Dr. Bledsoe (n.d.), one of the country's foremost experts on emergency medical services (EMS), "Small incidents (in size), including those that result in the death of colleagues, should be handled by competent mental health professionals. Debriefing should not be provided. Mental health providers should screen affected personnel for up to two months for abnormal responses to stress. And personnel not adapting should be referred to competent personnel for accepted forms of therapy."

The rotation of personnel out of the disaster scene area with proper rest and rehabilitation, the constant surveillance of personnel for signs of stress done by mental health professionals, and the post-incident surveillance of involved personnel by mental health professionals can also aid in the reduction of stress related syndrome (Bledsoe, n.d.). CISM/CISD teams, defusing and debriefing, and mandatory psychological interventions may not have the inherent value once very highly thought of within the

mental health professional community. Public safety leadership should all learn to place a greater emphasis on individual coping styles. Having a competent mental health professional embedded into the organization, who knows the culture and who can also screen those identified by peers as non-adaptive, may bring a higher level of relevance to survivors/victims (Bledsoe, n.d.).

Fire, EMS and police organizations should continue to do what has always been done: utilize the supportive department culture, involve family members early and often, provide information and psychological first aid and treat only the affected members not the entire workforce. Quality studies have shown that CISM/CISD has the potential to cause serious harm to a sub-set of people who receive it. Public safety psychological support systems need to be explored regarding which brings the greater liability: not having a defined CISM/CISD program or having a flawed program that can be supported by scientific data as being flawed. If first responder organizations truly want to maintain the best interest of its members, that issue will have to be addressed.

B. FAMILY SUPPORT OVERVIEW

The research conducted for this thesis was initiated to determine the concerns and issues that public safety employees have regarding family member support before, during, and after a catastrophic event. Early retirements due to mental stresses, long-term psychological impacts, and a lack of available stress counseling for members and their families are some of the negative impacts that could be outcomes of a public safety system that does not offer comprehensive support for personnel and their family members. Collectively, 10 public safety organizations, five FEMA regions, and five state emergency management agencies were interviewed or surveyed. There are a number of variables that impact organizational development of family support systems and the front-end planning of these systems that is required for successful application. Leadership is a key component critical to plan development and implementation. Any effective family support system must begin well in advance of application. Forward thinking, vision, understanding and appreciating the multitude of issues and factors and a comprehension of the complex consequences will allow stakeholders to unify and

collaborate and see the big picture regarding the planning process necessary to support members and their families. Following the events of September 11, 2001, politicians and elected officials praised first responders and their mission and position within the communities they serve. These officials emphasized the importance of first responders' collective well-being by being engaged with whatever was necessary to protect them. Many of these politicians understood the new roles and responsibilities that public safety organizations would face in response to mitigation efforts of both manmade and natural disasters. The *National Preparedness Guidelines* listed the 15 National Planning Scenarios which "depict a diverse set of high-consequence threat scenarios of both potential terrorist attacks and natural disasters" (Department of Homeland Security [DHS], 2007, p. iii).

Legislative authorities are aware of the potential catastrophic emergencies outlined in the National Preparedness Guidelines. These leaders have distributed billions of dollars to address the needs of public safety personnel relative to training, equipment, and preparedness efforts.

However, not enough has been done in the legislative arena to protect this critical human resource and their families from the negative emotional impacts of international, domestic terrorism and natural disaster emergency response deployment.

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VII. RECOMMENDATIONS AND CONCLUSION

A. RECOMMENDATIONS

The following recommendations were derived from the analysis of the research interviews and surveys conducted for this thesis. The perspectives of the interviewed first responder command officers and surveyed federal/state emergency management professionals are the basis for these recommendations. An in-depth analysis was conducted comparing the current public safety family support systems with military models utilized by all branches of the United States armed forces. The conclusions reached from this analysis in conjunction with research conducted aided with the blue ocean strategy and mega-community initiatives that can be implemented to enhance any first responder family support system.

Policy development for first responder family support systems is a critical "first step" to ensure the ability to provide this function for members within the public safety arena. The purpose of such a policy would be to provide guidelines for family support group operations for personnel deployed to major incidents for operational periods that exceed 48 hours. The development of a Family Support Group (FSG) or Employee Welfare (EW) Section within the organization is highly recommended. The FSG/EW would be instrumental with policy development to include all facets of family member support (e.g., communication models for updates and real-time information, existing support, EAP programs, mass prophylaxis, and evacuation/shelter). The FSG/EW would also engage the organizational budgetary process to address the feasibility of funding support for the FSG/EW Section. Major points of consideration for policy/guideline development would be:

- All personnel providing a listing of contact numbers for immediate family for use in emergency situations and as a means for updating family regarding long-term deployment of the first responder. This listing would be updated as necessary, no less than annually.
- All personnel would maintain personal history information, automobile information, insurance, property ownership and financial data at their

residence. Members should ensure spouse or significant other is aware of this information should it be needed during a deployment.

- As soon as the FSG section is activated, the family of each deployed member shall be notified and given the following information: FSG phone number, FSG e-mail address, emergency phone number, operating hours and times to call for updated information.

- A tentative schedule of contacts should be established prior to personnel departure; this scheduled should be refined as needed. The schedule should be passed on to family members of deployed members as soon as practical.

The above listed points of reference should be utilized as a "starting point" for policy development from the FSG—it is not all inclusive. Utilizing components from the United States armed forces, dedicated mental health support, mega-communities (e.g., government, business, non-profits and the faith-based community) along with the implementation of a "blue ocean strategy" (creating an uncontested market space that makes competition irrelevant) should all be leveraged for the development of a robust, comprehensive first responder family support system (Mauborgne & Kim, 2005, pp 12–150). The corner-stone of blue ocean strategy is "value innovation." A blue ocean is created when a program or process achieves value innovation that creates value simultaneously for both the organization and the end user. The innovation (mega-community engagement in public safety family member support systems), must raise and create value for the market, while conversely reducing or eliminating features or services that are less valued by the current or future models (Value Based Management, 2009).

B. CONCLUSION

In an attempt to truly create a "blue ocean" within first responder family member support systems, value innovation has to be realized.

Value innovation is the cornerstone of the strategy because it focuses on making the competition irrelevant by creating a leap in value for buyers, stakeholders and businesses. This in turn opens up new and uncontested market space (Mauborgne & Kim, 2005, pp 12–150). The following concerns relative to value innovation would have to be addressed in order to create a viable family support system for the first responders and

their families: a reduction in health care cost associated with mental health care, a streamlined process for family member mass prophylaxis (bioterrorism event or pandemic), a family member evacuation and shelter plan (natural disaster/weather related event), shelter-in-place processes (CBRNE event or domestic terrorism), and any other support mechanism that facilitates increased support functions for family members of "boots on the ground" responders.

Additional support features could be realized with the leveraging of the "mega-community" concept that engages the private sector (Wal-mart, Lowe's, Home Depot, etc.), non-government organizations such as the Red Cross and other volunteer entities with the local and state municipality. Memorandums of understanding (MOUs) and inter-governmental agreements (IGAs) would be drafted, signed, and utilized to ensure a seamless process of support within the engaged organizations.

The following eliminate-reduce-raise-create (ERRC) grid outlines an ability to ask all four questions in the four actions framework while acting on all four to create a new value curve (see Figure 1). The grid actions of eliminating, raising, reducing, and creating provide the following immediate benefits:

- It pushes all stakeholders to simultaneously pursue differentiation and low cost to break the value-cost trade-off.
- It immediately flags organizations that are focused only on raising and creating and thereby lifting their cost structure and often over engineering products and services.
- It is easily understood by managers at any level, creating a high level of engagement in its application.
- It drives organizations, companies, and businesses to robustly scrutinize every factor the industry competes on, making them discover the range of implicit assumptions they make unconsciously in competing. (Mauborgne & Kim, 2005, p. 36)

ERRC Grid for First Responder Family Member Support

Eliminate:

Redundancy

Inefficiency

Reduce:

Family member anxiety

Family member physical and emotional support complexities

Raise:

Seamless support efforts

Level of mega-community engagement

Family member piece of mind along with responder safety/effectiveness

Create:

Framework for mega-community involvement

Incentives for mega-community involvement

Figure 1. ERRC Grid for First Responder Family Member Support

The research involving first responder command officer interviews and federal/state emergency management surveys revealed very similar themes regarding funding and budgetary issues necessary to develop robust family member support systems. The central themes with the interviews and survey also pointed to military models as a basic starting point with continued development of these support systems and governance with well defined standard operating procedures and guidelines.

This thesis also outlined risk versus benefits related to critical incident stress management and critical incident stress debriefings. The value added component of both

these services would also involve family member inclusion with mental health professionals available to facilitate the desire for group or individual emotional support. This support could be critical with first responder long-term deployment to a significant incident that involved massive loss of life and property.

The implementation of a blue ocean strategy with twenty-first century public safety initiatives should also be considered. The ability of first responder family support systems to do more with less while leveraging all available resources will assist with meeting the demands of a truly collaborative effort within the community.

Public safety organizations that have prepared for an all-hazards response to major events with adequate training, equipment, certifications and a developed comprehensive system for support of the families of their responders send their personnel into harms way knowing that they can concentrate and focus their efforts on the job at hand instead of antagonizing over the plight of loved ones at home. This preparedness benefits not only the public safety organization and its members, but also the citizens and community that these responders are sworn to protect at all cost. Preparedness, pre-planning, and partnerships are the necessary components that can assist with ensuring the communities within the United States can truly rely on the career and volunteer first responders. The planning process for first responder family member support should also be viewed as a "force multiplier" based on the increased focus and concentration of first responders that know the well-being and safety of their families have been addressed.

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APPENDIX A. SUPPORT FRAMEWORK FOR FIRST RESPONDER FAMILY MEMBERS INTERVIEW QUESTIONS

1. Please provide your general thoughts on experiences with a weather related or domestic terrorism incident where responder family issues were prevalent.

2. How would a support framework have assisted your organization during or after these events or incidents?

3. How would responder effectiveness been increased with family support functions in place?

4. Has there been any documented PTSD or drug/alcohol impacts within your organization?

5. Does your organization currently have a system in place for responder family member support, if so, what does this system consist of?

6. From your perspective, what should a first responder family member support framework look like?

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APPENDIX B. SUPPORT FRAMEWORK FOR FIRST RESPONDER FAMILY MEMBERS SURVEY QUESTIONS

1. What are your general thoughts on the need for a first responder family support framework? Specifically, what are your thoughts regarding this framework and your experience with the rescuer/victim first-responder?

2. Do you think this proposed framework should encompass natural disasters (weather related), domestic terrorism (WMD, CBRNE) and pandemics (avian, swine flu), or should separate frameworks be developed based on the inherent differences between these events?

3. What are the emerging issues that would shape development of a first-responder family support framework?

4. What strategies can public safety leaders implement to address the emerging issues with the development of family support plans?

5. How could the role of public safety be expanded to include and support the directive for first-responder family member support?

6. How could the community and private businesses be leveraged to support implementation and maintenance of a first-responder family member support framework?

7. What do you feel would be the tangible benefits to first-responders, public safety organizations, and municipalities relative to the implementation of a proposed support system for first-responder family members?

8. From you perspective, what would be the obstacles for implementation of such a framework?

9. Could a "one-size fits all" approach be taken toward this initiative, or would individual systems be necessary per discipline (fire, police, EMS)?

10. If a support framework for first-responder family members was established, from your perspective what would this program look like?

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