An Ideal Model for Suicide Prevention Programs in the Fire Service: Evaluating the suicide prevention programs of Texas Commission on Fire Protection certified special district fire departments in Hays County, TX.

By

Autumn D. Smith

Applied Research Project

autumndsmith@gmail.com

TEXAS STATE UNIVERSITY

The rising STAR *of Texas*

Submitted to the Department of Political Science
Texas State University-San Marcos
In Partial Fulfillment for the Requirements for the Degree of
Master of Public Administration

Summer
2021

Table of Contents

Dedication

This research project is dedicated to my biggest fan, my husband, Douglas Smith (1959-2019). I'm saddened that you won't have the opportunity to read this but rejoice that I will get to tell you all about it one day. "…true love never fails…" (I Corinthians 13:8)

Acknowledgements

First and foremost, I am extremely grateful to my supervisor, Dr. Nandhini Rangarajan, for her invaluable advice, continuous support, and patience during my MPA study. I would like to thank my sister, friend, and editor, Maegan, for her guidance and unwavering support. I would like to express my gratitude to my mother, Terrie, and my children: Sam, Kaylee, Owen, and Ainslee. Without their encouragement and sacrifice these past few years, it would have been impossible for me to complete my study. Finally, I thank God for this opportunity and the strength to finish this paper.

Abstract

The fire service is facing a crisis of firefighter suicides. The rate of firefighter suicides and suicidal ideation is on the rise. Current programs are lacking in a holistic approach to suicide prevention. This study aimed to use available literature to develop a preliminary suicide prevention framework, to assess Hays County Emergency Services District's (HCESD's) fire departments using the framework, and finally, to use those assessments to make recommendations to establish and/or improve suicide prevention programs in HCESD's fire departments. To create the framework an extensive literature review was conducted of existing programs. Once the framework was established the five ESD fire departments within Hays County were contacted with a request for documentation. Using document analysis and coding sheets, each fire department was evaluated for presence and quality of the individual suicide prevention program for each department. The analysis showed that these fire departments are unprepared for the rising suicide rate epidemic. Based on these findings, further research is suggested and cooperation of fire departments within HCESDs is recommended to create a more robust program.

Chapter 1: Introduction and Purpose Statement

"We just love what we do. It didn't even occur to us that what we do can harm us…
But anybody with heart would be messed up."
– *Sheila Kaiser,* as cited in Osby, 2019

The fire service is facing a crisis. Firefighter suicide rates are at epidemic proportions (Fischer & Etches, 2003, 2). In 2018 110 firefighters in the United States committed suicide and in 2019 the reported number rose to 114 (Dill, 2019*)*. This number is staggering and made worse by the fact that only 45% of suicides are reported (Dill, 2019). Further, the number of reported suicides outnumbers the number of on duty deaths as illustrated by Figure 1.1 (Powers, 2019).

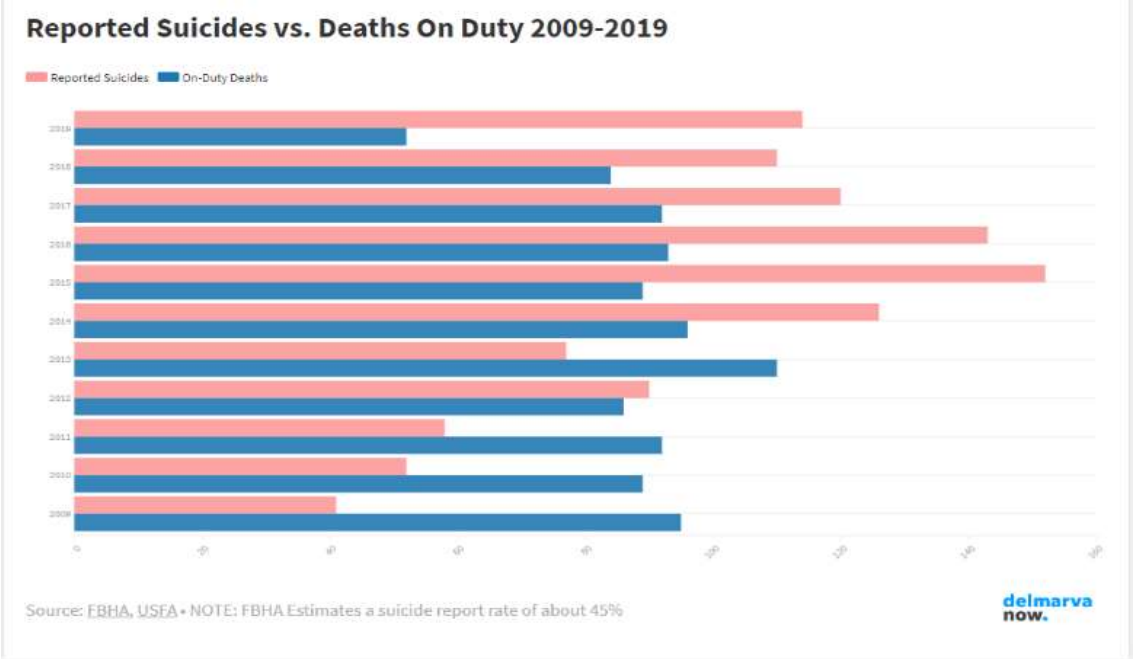

Figure 1.1 "Reported Suicides vs. Deaths on Duty 2009-2019" (Powers, 2019)

Additionally, firefighters are found to have higher rates of suicidal attempts and thoughts of suicide, referred to as suicidal ideation (Damien, 2019, 98). A survey of emergency medical services (EMS) staffers and firefighters, conducted by Newland et al., in 2015, showed that 37% had thoughts of suicide and 6.6% had attempted to end their lives. The rate of suicidal ideation in firefighters and EMS staffers is higher than the national average of 3.7% and .5%

respectively (Newland et al., 2015, p. 32). Motivated by these statistics researchers have begun to theorize ways to assist firefighters. The literature shows that a suicide prevention program in the fire service reduces suicide rates by 50% (Witt et al., 2017, 394). To illustrate the benefit of a suicide prevention program, recounted here are the stories of Firefighters Matt Byrne and Scott Geiselhart. The first story, of Mr. Byrne, was reported by New York Today, his story came to the tragic end of suicide. Mr. Geiselhart's story, as reported by DL-online E-paper, has a more favorable outcome as he received help through a suicide intervention program.

Firefighter Matt Byrne (As reported by Kilgannon, 2019 in New York Today.)

Image 1.1 Firefighter Matt Byrne (Photo Credit: Byrne Family)

Matt Byrne joined the fire service in 2001 in response to the World Trade Center bombing in September of 2001. He rose through the ranks and became a nozzleman on Engine 9 in Chinatown. Mr. Byrne was frequently exposed to action and death. Two such examples were "a seven-alarm fire that killed two firefighters and injured hundreds of others and two children that died in his arms after being run over in Chinatown" (Kilgannon, 2019).

As a consequence of facing trauma repeatedly Mr. Byrne developed post-traumatic stress disorder (PTSD) and severe depression. Mr. Byrne's father stated, "He was fine with fire, but it was the constant death that got to him." Mr. Byrne would come off shift at the fire department and begin drinking to calm his nerves. Further, he developed an opioid addiction after a knee injury. His addiction led to multiple admissions into clinics and psychiatric wards. Mr. Byrne left the fire service in March of 2014, followed shortly by the loss of a secondary long-standing job as a lifeguard. Mr. Byrne was charged with driving while intoxicated. Due to the accumulation of all these factors he committed suicide in August of 2014.

Firefighter Scott Geiselhart (As reported by Johnson, 2019 in DL-online.)

Scott Geiselhart is a volunteer firefighter in Minnesota, who has witnessed many traumas while serving his community. Due to the constant exposure to trauma, he began having nightmares and flashbacks of horrible events he had responded to as a firefighter. Mr. Geiselhart began drinking and using methamphetamine in an attempt to alleviate his symptoms. These behaviors led to isolation and verbal abuse of his family. Mr. Geiselhart was experiencing PTSD and depression; he did not discover this until after a failed suicide attempt.

"'It took a suicide attempt to find out I had PTSD', he says. 'It was very unfortunate… I lost control of myself, so my suicide attempt was an attempt to regain control. But that was the worst decision I ever made in my life. I was confused. I was looking at things different than I do now… When I was in that place, I thought I was doing everybody a favor. That's the darkness. That's scary. When you lose control, you feel like you're all alone.' *–Scott Geiselhart" (Johsnon, 2019)*

Image 1.2 Firefighter Scott Geiselhart. (Photo Credit: Marie Johnson / Tribune)

Mr. Geiselhart reached out to a national support program, Share the Load, that connected him with a local therapist. Due to the help of Share the Load and therapy Mr. Geiselhart has recovered from PTSD and his addictions. Mr. Geiselhart now uses his experience to lessen the stigma of suicide. He now speaks out to fire departments about the stigma surrounding PTSD that affects the fire service while promoting mental health and suicide awareness initiatives.

Importance of a Suicide Prevention Program

The stories of Mr. Byrne and Mr. Geiselhart clearly demonstrate the importance of putting resources and strategies in place for suicide prevention and intervention. Though Mr. Geiselhart was able to find resources, he suffered through many years of symptoms caused by PTSD before he received the help he needed. A fire department suicide prevention and

intervention program is vital to the mental health of firefighters. Unfortunately, 70% of fire departments across the country do not have a mental health component or suicide prevention program in place (Harrington, 2018, pg. 41). Fire service organizations such as the National Fire Protection Association (NFPA), International Association of Fire Chiefs (IAFC), and the non-profit National Fallen Firefighters Foundation (NFFF) have published guidelines and standards for a fire prevention program; however, to date, there is no research that outlines an effective holistic suicide prevention program per se, nor has much research been conducted to test the efficacy of these.

Research consistently shows that an effective suicide prevention program is holistic (Bellon, 2007; Carlisle & Brook, 1999; Dedic and Panic, 2007; Henderson et al., 2016; Hofstra et al., 2018; International Association of Fire Fighters, 2008; Milner & LaMontagne, 2016; Stoermer, 2019; Warner et al., 2011, World Health Organization, 2006; Witt et al., 2017). A holistic approach refers to the interconnected components of a suicide prevention and intervention program that can only be seen as a whole, not individually. According to Witt et al. (2017) there are three levels of prevention that must be included in a suicide prevention program: primary, secondary, and tertiary; this evidence has been confirmed in other research (Dedic & Panic, 2007; LaMontagne et al., 2014). The reasoning behind a holistic approach comes from the general nature of suicide. Suicide is a process that evolves over time and begins with stress, burnout, and repeated exposure to trauma that leads to PTSD and depression which increases the likelihood of suicidal ideation and suicide attempts (Carpenter et al., 2015; Kim et al., 2019; Martin et al., 2017). Therefore, programs must have multiple components. Due to this complexity it is difficult to determine which component is effective or if the effectiveness of suicide prevention programs stems from the holistic approach. The general theme in the literature

points to incorporating all three levels of care to form the most effective suicide prevention program (Dediric & Panic, 2007; LaMontagne et al., 2014; Witt et al., 2017).

However, knowing the most effective measure does not decrease the difficulty in developing a suicide prevention program; there is a lack of research in certain areas and the primary level preventative approach specifically. Witt et al. (2017) conducted a meta-analysis and found only thirteen studies that researched the efficacy of a fire service suicide prevention program and only one of those addressed the primary level of prevention. There are numerous informal resources for both military services and fire services. This paper focused on those resources that have been tested for efficacy. Clearly, there is a need for more research on this topic. In the following chapter a framework will be developed using the literature as a guide. Before beginning to develop the framework for an effective suicide prevention program it is necessary to describe the research setting, Hays County Emergency Services District fire departments.

Hays County Emergency Services Districts

The purpose of this section is to outline the fire service organization structure in Texas and to define why this research is necessary specifically in Hays County. In the United States "authority for code enforcement remains at the state, local, tribal and territorial levels and is outside federal purview" (USFA, 2019, 36). Due to this structure Texas has founded the Texas Commission on Fire Protection (TCFP) which is the governing entity for commissioned fire departments and certified firefighters. Each fire department must adhere to the state regulations set by TCFP. A fire department that is funded by an Emergency Service District (ESD) must be compliant with TCFP laws, regulations, policies, and procedures (Regulating and Assisting Fire Fighters and Fire Departments, 1987/2001). ESDs in Hays County employ over 150 career

Texas Commission on Fire Protection (TCFP) certified firefighters. An ESD is a political subdivision established to provide local emergency services which can include both EMS and fire protection services; these services can be provided together or individually (Longley, 2015).

There are currently five ESDs in Hays County that are TCFP mandated and compliant: South Hays Fire Department (Hays County ESD 3), Wimberley Fire and Rescue (Hays County ESD 4), Kyle Fire Department (Hays County ESD 5), North Hays County Fire and Rescue (Hays County ESD 6), and Buda Fire Department (Hays County ESD 8).

"Hays County is the fourth fastest growing county in the state of Texas" (Albiges, 2018); the population has increased by 41% in the last 7 years (U.S. Census Bureau, 2019). This growth places new challenges on fire departments in responding to calls and maintaining continuous coverage for their communities. The NFPA states that the number of 911 calls nationwide has tripled in the last 30 years (Bodin, 2017). Additionally, according to the United States Fire Service, response calls are predominantly emergency response calls, as opposed to fire calls (USFA, 2018, 12). As evidenced by Mr. Byrne and Mr. Geiselhart this will expose firefighters to increased trauma. In order to ensure the mental health of firefighters, ways to prevent and reduce suicide rates must be investigated. The development of a suicide prevention program is necessary to bridge the gap in knowledge and find ways to decrease suicide and suicidal ideation in the fire service. Further, due to exponential growth, Hays County fire departments will need increased personnel to ensure the safety of the communities they serve. This strengthens the case for ESDs in Hays County to have a suicide prevention program in place.

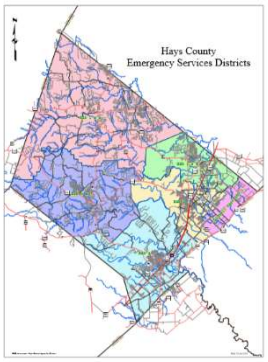

Figure 1.4
HCESD Map
Image credit
Hays GIS

Research Purpose

Therefore, the purpose of this research project was threefold. First, an extensive literature review was conducted to develop a preliminary fire department suicide prevention framework. Second, the preliminary fire department suicide prevention framework was used to assess Hays County Emergency Services Districts (HCESDs) suicide prevention programs. Finally, information from the framework and HCESDs assessments were used to make recommendations to establish and improve suicide prevention programs within HCESDs fire departments.

Chapter 2: Literature Review

Chapter Purpose

The purpose of this chapter is to review the literature to determine the components of an ideal suicide prevention program for the fire service. Using Witt et al.'s (2017) meta-analysis as the foundation this literature review consists of four major areas: a management component, primary level prevention, secondary level prevention, and tertiary level prevention measures. As stated previously, the literature overwhelmingly supports a holistic approach (Heitman, 2016; Hofstra et al., 2019; Milner et al., 2016; Stoermer, 2019; Warner et al., 2011) and all four components are vital to a successful suicide prevention program. The chapter concludes with the conceptual framework for a suicide prevention program.

Management Component

The first component that fire departments need to have in place is the administration or management component of the suicide prevention program. The entire program needs to be clearly stated in the department's standard operating procedure (SOPs). The SOPs are the department's guiding documents that contain all information on how the department conducts activities. This clear statement of the components of the suicide prevention program are not only necessary to ensure that the program is implemented and maintained correctly but is mandated by law and is among the national standards for the fire service.

As mentioned previously the Texas Commission on Fire Protection (TCFP) is the oversight agency for commissioned ESD fire departments in Texas. According to the compliance standards found at the TCFP website the following requirements are to be met: "[The department] must have a document that describes the procedure the department used for assessing the wellness and fitness needs of the personnel in the department (Fire Service Joint Labor Management Wellness-Fitness Initiative, 2006)." These written procedures, though

mandatory, are not evaluated by TCFP. The second requirement of TCFP for fire departments is that there be "a written Standard Operating Procedure to address wellness and fitness needs of the department based on local resources" (Fire Service Joint Labor Management Wellness-Fitness Initiative, 2006). Again, these procedures must be written, but TCFP does not evaluate SOPs. The TCFP statutes offer no guidance in how the program must operate or components necessary in the program. Further, the statute applies to total wellness and fitness, it is not specific to suicide prevention. Fire departments must find guidance for specific components from other sources. The fire service relies upon the National Fire Prevention Association (NFPA), a non-profit organization, for fire service national standards in all areas including firefighter health and wellness.

To that end NFPA has set the national standard for an occupational safety, health, and wellness program through NFPA 1500. This standard encompasses all health and wellness and, though limited, does offer some guidance in implementation of a suicide prevention program. The standard defines what management duties should be included in a suicide prevention program. The following items are the management components recommended by NFPA 1500:

- 12.1.2.1: a "clearly written policy on alcoholism, substance abuse, and other behavioral health conditions that can adversely affect performance or fitness for duty"
- 12.1.2.1: adherence to HIPAA[1] guidelines
- 12.1.2.2.2: behavioral health records are not to be maintained in the regular personnel file (NFPA 1500, 1500-34).

The NFPA also states "that whenever possible [the department] shall employ prevention strategies and programs supported by peer reviewed, published research for which published

[1] "'Health Insurance Portability and Accountability Act of 1996 ('HIPAA'). Also known as The Privacy Rule. HIPAA standards address the use and disclosure of individuals' health information—called 'protected health information' by organizations subject to the Privacy Rule — called 'covered entities,' as well as standards for individuals' privacy rights to understand and control how their health information is used." (HHS.gov, n.d.)

empirical research supports their safety and efficacy" (NFPA 1500. 12.2.2, 1500-34). At this point fire departments must turn to research to define the key elements of a successful suicide prevention program, which include three separate levels of prevention. The first of which is primary level prevention strategies.

Primary Level Prevention

Primary level prevention activities are those "activities which aim to prevent the occurrence of workplace suicide through efforts to minimize occupational sources of job stress" (LaMontagne et al., 2007). Witt et al. (2017) conducted a meta-analysis and systematic review and found that the category least studied within suicide prevention programs was primary level prevention. In fact, there was only one study out of the thirteen included studies that addressed primary level prevention activities. This study conducted by Dedic & Panic (2007) focused on a suicide prevention program in the Serbian and Montenegro Army. As this is the only study with a follow-up component and clear evidence of effectiveness it will be used to determine which primary level prevention activities must be included in a suicide prevention program.

Dedic & Panic (2007, 554) found that the program they implemented in the Serbian and Montenegro Army reduced the suicide rates of army personnel from 13 per 100,000 subjects to 5 per 100,000. Though this study was focused on a military unit it is still highly relevant to the fire service. Both military and fire service personnel face high levels of stress and frequently suffer from post-traumatic stress disorder (PTSD) which can lead to suicidal ideation and suicide. Dedic & Panic (2007) implemented their program and then reviewed the study results after a 2-year period. The first item to note from the study of the Serbian and Montenegro Army were the profiles that emerged regarding those individuals that are likely to commit suicide. The first type of individual likely to commit suicide are "introverts with poor social contacts, rigid, with high

emotional control, with high accepted morals and are professionally very effective, often in burnout, with hidden (latent) depressive symptoms" (Dedic & Panic, 2007, 553). The second type of individual was found to be an "extrovert, well-adapted with a low level of emotional control, immature with impulsive reactions, inclined to hazard games (gambling) or some criminative actions, under suspension or threatened to prison." (Dedic & Panic, 2007, 553). This insight into whom might be more likely to commit suicide allows for an opportunity to examine specific preventative measures that may be useful and effective in preventing suicide. In response to this knowledge of suicide 'types' Dedic & Panic produced a booklet for the Serbian and Montenegro Army.

"Suicide Prevention in the Military Environment", the aforementioned authors' book, provided information on psychological characteristics of suicide and suggestions for suicide prevention measures. These suggested prevention measures are not defined within the article except to state that all measures are "helpful educational lectures for both professional staff and soldiers" (Dedic & Panic, 2007, 553). As the information provided by Dedic & Panic was limited further review of the literature was needed to provide those components that are considered primary preventative measures. Further investigation revealed four subthemes of the primary level prevention of suicide: changing the cultural stigma of suicide within the fire service, creating a well-being program that focuses on resiliency training, leadership training, and prescreening and providing training to recruits. These subthemes will now be defined and discussed.

Cultural Stigma

In the 2019 annual report on *Fire Fighter Fatalities in the United States* the National Fire Protection Association found that one of the main proactive measures that needed to be taken was eliminating the stigma associated with suicide and mental health (Fahy & Molis, 2019). This is supported throughout the literature. Hackett & Violanti (2003) found that the stigma decreases a person's willingness to ask for help and therefore creates higher suicide rates. Further, Finney et al. (2015) surveyed the members of the Houston Fire Department and found that firefighters preferred to have mental health services available to them 'in house' (Finney et al., 2015, 2). As Kuehl et al. (2013) stated, "holding on to tradition [is a] general characteristic of fire departments" (427).

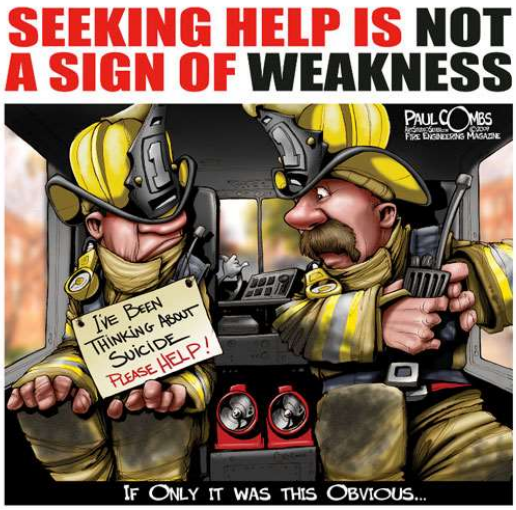

Image 2.1 Suicide Prevention Poster
Image credit: Combs, P. (2016)

This 'in house' mentality stems from the fire service brotherhood. The perception of those within the fire service is that they are a unit who must trust each other explicitly and be able to depend on their teammates to guard them in dangerous situations. This dependence on complete trust of the fire department team leads to a lack of trust of those outside of the fire service and an unwillingness to reach outside of the unit for help (Henderson et al., 2016, 226). For any suicide prevention program to be successful this resistance to help must be overcome. In other words, firefighters need to have buy-in.

Buy-in is defined as “engagement in and acceptance of ideas, programs or plans related to workplace wellness” (Harrington, 2017, 44). Harrington (2017) found that lack of buy-in was caused by fear of job loss, fear of confidentiality breach, and a general lack of interest in the program. To create buy-in the brotherhood must come together and be willing to support each other mentally as they do physically on service calls. Finney et al. (2015) assert that any suicide prevention program must be supportive as opposed to punitive. It is imperative that mental health wellness initiatives are seen in a positive light. Leadership must encourage, by example and through training, that seeking help is not weakness and there will be no reprisal for taking care of mental health issues (Henderson et al., 2016, 226).

Resiliency Training

One way to accomplish help seeking behaviors is through resiliency training. Fay et al., (2006) noted that, in general, firefighters have maladaptive coping mechanisms. Coping mechanisms are defined as “an adaptation to environmental stress that is based on conscious or unconscious choice and that enhances control over behavior or gives psychological comfort.” (dictionary.com). One way to change these maladaptive coping mechanisms within the fire service is to offer resiliency training. Resiliency is the capacity to recover quickly from difficulties; toughness (Merriam-Webster). Resiliency efforts that have been identified as helpful are mindfulness activities, building social support systems, and minimizing occupational sources of job stress (Witt et al., 2017, 396).

Mindfulness activities are those activities that encourage firefighters to overcome the avoidance of feelings (Cecconello et al., 2014, 186) and coping mechanisms for dealing with those feelings and job stressors. Davis (2005) outlined an educational program for stress

management within the fire service. Recommendations for mindfulness activities include: talking to someone; journaling, both individually and as a group; exercise; focusing on the good aspects of a call instead of the trauma; relaxation exercises such as deep breathing; yoga and progressive muscle-relaxation (Davis, 2005, 30). The main way to buffer the effects of stress according to Davis is social support (30). The front-line social support needs to be provided by the leadership of the fire service.

Image 2.2 Firefighters in a downward dog, yoga pose (SWNS)

Leadership Training

Leadership training is essential to resiliency and a well-being program's success (Davis, 2005). Leadership training for the purposes of promoting behavioral health includes suicide awareness, identifying high-risk suicide candidates, and being champions of the program. Carpenter et al. (2015) stated that social support decreases suicidal ideation. Leaders within the fire service must be the front line of social support. Leaders that are to be a part of the mental health and wellness program will be required to have emotional connections with their subordinates and have the capability to listen and address any and all emotional issues and concerns without shaming, breaking confidence, or reprisal to the help-seeking individual. To this end Damien (2019) suggested using an emotional screening tool as part of the promotion process within the fire service (193).

Damien asserted that leaders would have the following behaviors in order to be promoted: “leading by example, open communication, honest, empathetic, consistent, willingness to continued learning” (150). These traits emphasize the importance of firefighters being able and willing to form primary social connections with the leadership of their departments (Damien, 2019, 190). This primary relationship will also foster a trust that can be relied upon during high-risk episodes. Finney et al (2015) also came to this conclusion after implementing a suicide prevention program in the city of Houston. After initial implementation of the program that “hinged on senior leadership” there was a reduction of suicides within the department (Finney et al., 2015, 3).

Prescreening of Recruits

In light of the discovery of personality traits that most likely lead to suicide Carlisle & Brook (1999) recommended using a personality inventory (7) as a requirement during recruit onboarding. The Toledo Fire Department began using two inventory tools to determine a recruit’s fitness for duty. These two tools were the Minnesota Multi-phasic Personality Inventory (MMPI) and the Hilson Safety and Security Risk Inventory (HSSRI). The MMPI is a psychological test that assesses personality traits, most used for those individuals who are suspected of having behavioral health issues. The HSSRI, on the other hand, is an integrity assessment that helps to determine those individuals who are prone to risk-taking

Firefighters are required to pass physical tests in order to be certified and it is quite reasonable to mandate the passing of a mental health exam in order to become a recruit. Other public services, such as police and military forces, have long used such measures before allowing members to become recruits. A shortcoming of Carlisle & Brook’s study was the lack of follow

up information. Health records for all recruits and members are locked due to HIPAA[2] regulations. Therefore, evaluating the success of prescreening is difficult, if not impossible.

Finally, Dedic & Panic (2007) and Davis (2005) assert that "suicide prevention begins in recruitment." Recruits had to be mentally healthy (Dedic & Panic, 2007, 552). Therefore, a rigorous selection process was implemented, and Davis' program implementation was first presented to recruits. Recruitment protocol included a psychological screening by a mental health specialist as well as a background check. Davis' training program focused on suicide and stress awareness as well as coping mechanisms. Davis also presented resources that were available and did mock exercises to encourage openness and facilitate trust within the unit.

Secondary Level Prevention

The components of the primary level provide the foundation for the remainder of a successful suicide prevention program. The next level of suicide prevention, secondary level prevention, builds upon this foundation. These strategies are the most explored throughout the literature. The secondary suicide prevention level is defined "as activities that assist employees in how they respond to job stressors and further help identify the risk of suicide" (Witt et al., 2017, 396). Returning to Witt et al.'s (2017) meta-analysis the primary components that were tested for efficacy include: awareness training, gatekeeper training, surveillance procedures, implementation of both a crisis intervention team and a peer support team, and an alcohol and drug program. As most suicide prevention programs contain more than one of the listed components it is unknown which component is effective or if the combination itself is key to the success of the program (Bagley et al., 2010). Each of the secondary level prevention strategies

[2] See footnote 1 for definition.

that have shown validity will be discussed and connections between the prevention strategies will be made if applicable.

Awareness Training

Awareness training is the most researched topic throughout the literature. Awareness training has two main goals, to reduce the stigma of suicide within the fire service and to prevent suicide through education. (Chen et al., 2007; Davis, 2005; Fahy & Mollis, 2019, Fay et al., 2006, Finney et al. 2015; Fisher & Etches, 2003; Heitman, 2016; Henderson et al., 2016; Knox et al., 2003). The study that contained the most in-depth explanation of awareness training was Finney et al. (2015). Under the direction of Dr. Pierrel and Dr. Finney a Suicide Prevention Program was developed for the Houston Fire Department (HFD).

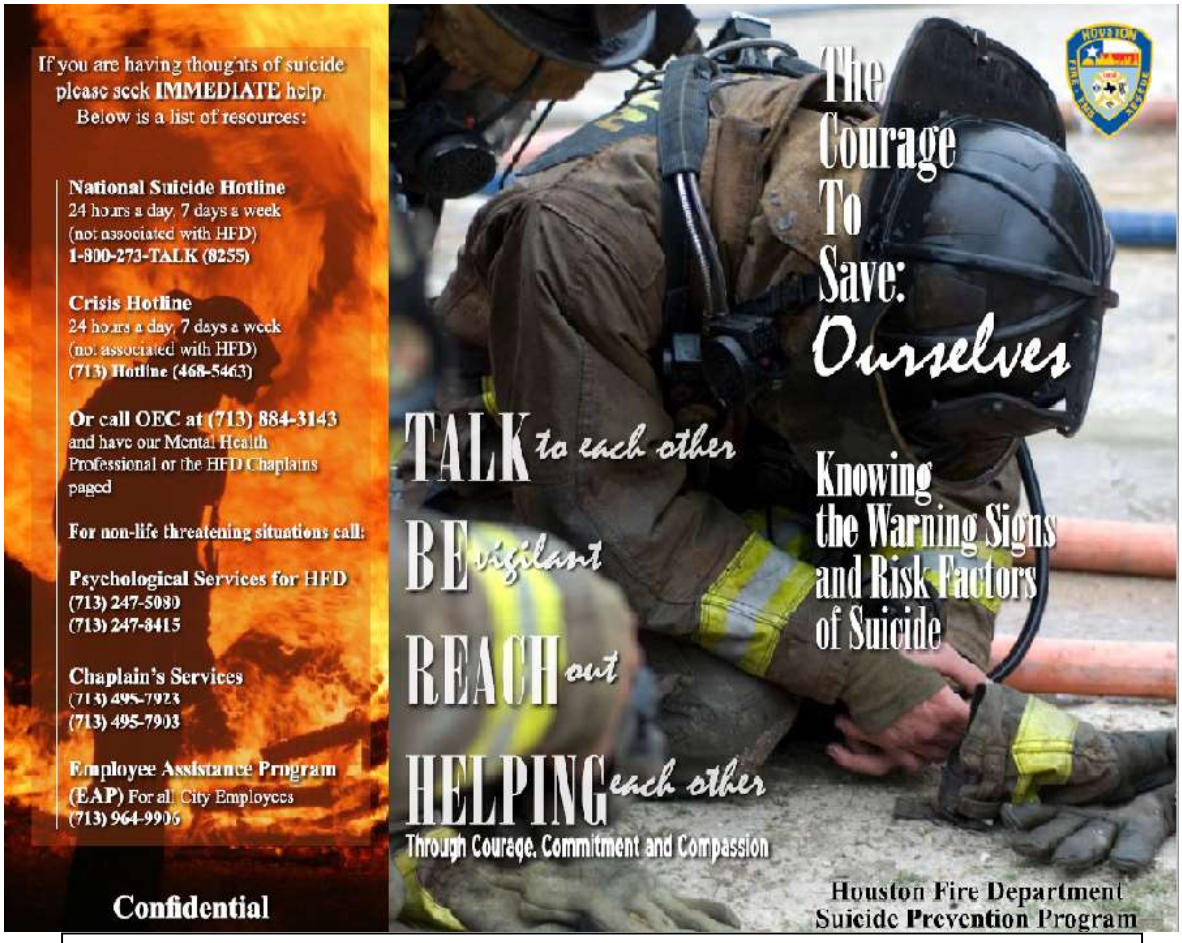

Image 2.3: HFD Suicide Prevention Program Brochure (HFD)

In 2015 Dr. Stephen Pierrel developed a “comprehensive three phase Suicide Prevention Program” for the HFD (Finney, et al., 2015). Phase 1 was Awareness. A suicide prevention team of nine firefighters was assembled prior to implementation of this phase of the program. Essentially Peirrel and Finney developed a train the trainer program. The goal of training this team was to impart the knowledge necessary to make presentations to the Houston Fire Department as a whole.

According to Finney, et al. (2015) the purpose of Phase 1 was to “gather input and ideas from active-duty firefighters on suicide in the fire service and to learn what they would like to see from the department regarding mental health issues” (2). Over a 3-month period the Chief of HFD ordered all units to attend the Phase 1 presentation. Phase 2 of the program continued in the same vein, imparting knowledge to the firefighters through a mandatory presentation regarding warning signs of suicidal ideation and ways HFD was prepared to assist in decreasing HFD’s history of suicide. The final phase of the program, Phase 3, was educating officers within HFD. The officers took an online course that taught differentiation between trouble and crisis, “how to deal with crisis situations, proper documentation of events, and how to identify and use mental health resources.” (Finney, et al., 2015, 3). The efficacy of this program was evaluated periodically.

This program showed initial success that, unfortunately, waned over time. The program began in 2007 and reports of new suicides were documented in 2012 and 2013. This development indicates that an awareness program must have a continuing education component. The fire service must ensure that the initial training is not forgotten; this can be accomplished through offering refresher courses and the application of continuing education courses for all levels of fire service personnel.

Gatekeeper Training

Another component that Finney et al. (2015) employed at HFD was gatekeeper training. Gatekeeper training is conveying to the leadership team how to "actively link persons experiencing a mental health crisis, including those who may be suicidal, with professional support services" (Witt, et al., 2017, 402). Witt et al. examined The Australian Defense Force (ADF) and found that ADF employs gatekeeper training during Level 2 of their Suicide Prevention Program. This level is identified as "Keep Your Mates Safe – Suicide Prevention Training" (ADF, n.d.). Junior leaders, commanders, managers, and other support staff attend a two-hour training led by health professionals. According to the ADF website this program's goal is to "enable [attendees] to identify persons at risk of suicide and direct them to first aid and health resources." The gatekeeper aspect has been implemented though the efficacy of its use has not been tested nor verified at either ADF or HFD (Witt et al., 2017). However, a study conducted by Knox et al. (2003) did show the significance of gatekeeper training.

Knox et al. (2003) analyzed the effectiveness of the United States Air Force suicide prevention program. Like the fire service, the US Air Force has a history of suicide within its ranks. In 1995 a program was implemented to reduce the number of suicides. A component of this program was gatekeeper training. Unfortunately, there are no specific details about how the US Air Force accomplished this gatekeeper training. However, the program as a whole did result in a 33% risk reduction in suicide rates (Knox et al., 2003, 1377). Further, Issac (2009) found that "gatekeeper training is successful at imparting knowledge, building skills, and molding the attitudes of trainees" (260), therefore, this component of a suicide prevention program cannot be dismissed.

Surveillance Procedures

Along the same lines of gatekeeper training is incorporating surveillance procedures in a suicide prevention program. This component was utilized in a US Army Division. James & Kowalski (1996) proposed a suicide prevention program to the 25th Army Infantry Division. The goal of surveillance procedures is to train officers, leaders, chaplains, and other support staff in ways to recognize and respond to warning signs of suicidal ideation and prevent a crisis event (James & Kowalski, 1996). Each of these recommendations is discussed here briefly.

First, James & Kowalski (1996) recommended using "risk factors as a guide to assess serious threat/intent" (99). The focus of assessment needs to be on factors that verify that the person in question is suicidal or experiencing crisis. James & Kowalski are attempting to prevent false assessments that are based on assumptions of 'typical' suicidal individuals. Firefighters need to be trained first and foremost in risk factors to prevent these false assessments. Secondly, the surveillance team must be willing to discuss thoughts of suicide. According to James & Kowalski (1996), "Discussing suicidal thoughts or tendencies will not increase its likelihood-it may prevent such behaviors" (99). This is a direct link to the reducing cultural stigma component described in the primary prevention strategies and validates the necessity of a holistic program.

The final recommendation James & Kowalski (1996) made was to ensure that the surveillance team knew when and how to refer individuals to proper help (99). It is crucial that those that have been trained in risk factors and have the serious and needed conversations have been prepared with a list of available resources from their department. The list should include, but not be limited to, a listing of community resources for emergency assessments. James & Kowalski also assert that "it is important to maximize community resources to prevent suicide" (99).

Crisis Intervention Team

The areas of awareness training, gatekeeper training, and surveillance procedures are all brought together in the formation of the crisis intervention team. Finney et al. (2015) provides the clearest description of what a crisis intervention team is. During Phase 1 of implementation of the HFD suicide prevention program a survey was conducted to determine fire personnel's thoughts on suicide prevention. The overwhelming response was the concern of 'outsiders' being in control of the program (Finney et al., 2015, 2). To alleviate this concern of the department a crisis intervention team was assembled specifically for HFD; the Firefighter Support Network (FSN).

The FSN consists of the following members: "the staff psychologist who acts as director, the assistant chief, a member advocate, a family assistance coordinator, a chaplain and assistant chaplain, a Crisis Incident Stress Management coordinator, and two union representatives" (Finney et al., 2015, 3). The main purpose of this unit is to offer full support to fire personnel through such services as "mental health, hospital visits, peer support, and even human resources tasks" (Finney et al., 2015, 3). The unit is an integral part of the HFD suicide prevention program and meets bi-monthly to discuss the program and the needs of the department. This program is the only such program within the fire service that was evaluated for validity. There are however other fields that have found the crisis intervention team to be a valuable component of a suicide prevention program.

Two such examples are Knox et al. (2003) and Warner et al. (2011), both studies were based in military service which has been discussed as bearing similarity to the fire service. Knox et al. (2003) implemented a suicide prevention program in the US Air Force which had over 5 million participants. Knox et al. did not define the members of their crisis intervention team nor

did they discuss the main goals of the team, only that one was part of the program they implemented. The results of the program showed a significant "reduction in suicide rates" (Knox et al., 2003, 1376). Warner et al. (2011) found similar results upon implementing a program within the US Army.

Warner et al.'s (2011) crisis intervention team had multiple levels due to the size of the US Army. The hierarchy of the US Army was utilized to the fullest and tasks assigned by rank. The Suicide Prevention Review Board and Suicide Risk Management Team were comprised of "the Commanding General, unit leaders, chaplains, medical and mental health resources, attorneys, military police, and public affairs personnel" (Warner et al., 2011, 130). At the brigade level the teams consisted of command representatives, mental health, medical, and chaplain personnel. This team was the front-line support during deployment for soldiers and resembles most closely Finney et al.'s (2015) model of a crisis intervention team. The goal of the brigade level team was tracking those members most at risk for suicide to ensure contact with mental health professionals was maintained. This unit also provided an opportunity for commanders to review what was successful and what aspects needed further development. (Warner et al., 2011, 130).

Peer Support Team

Another team that is important to include in a suicide prevention program is the peer support team. This team is a group of members that offer support to at-risk personnel. They receive training in identifying signs of crisis, how to encourage help-seeking behaviors, and are instructed in how to refer those at risk to the appropriate mental health resources (Knox et al., 2011). This component hinges on changing the cultural stigma and other primary level interventions. For instance, without proper awareness training it is impossible to build an

effective support team. The literature consistently shows the importance of social support (Beaton et al., 1997; Boffa et al., 2016; Carpenter et al., 2015; Cecconello et al., 2014). Beaton et al. (1997) found those with "low social support were at greater risk for adverse health outcomes" (1). Further, Boffa et al. (2016) found that "social support protects against post traumatic stressors" (281). Having confirmed the strong bond of firefighters and the need for social support it would follow that a peer support team would be an ideal component for inclusion in a suicide prevention program.

Alcohol and Drug Abuse

The final component Witt et al. (2017) noted for possible inclusion at the secondary prevention level was an alcohol and drug abuse program. The US Fire Administration has listed alcohol abuse as one of seven health concerns facing firefighters (Jahnke et al., 2014). Further, James & Kowalski (1996) found that a significant number of suicides committed "by persons in the military unit they investigated had been under the influence of drugs or alcohol" (98). They also stated those "under the influence of alcohol or drugs" were at higher potential risk of committing suicide due to decreased inhibitions (98). Violante continued with this line of thought, emphasizing that those already exhibiting signs of PTSD from job related stress that increased their alcohol use were at a higher risk for suicide (as cited in Mishara & Martin, 2012, 163). There is no specific information in either study that suggests what an alcohol and drug abuse program would consist of.

Jahnke et al. (2014) conducted a study to determine firefighters' perceptions of alcohol use with the intent of finding new interventions to the alcohol abuse issue in the fire service. Jahnke et al. (2014) conducted interviews and used focus groups from fire departments from across the country. The results found that fire departments have a zero-tolerance policy regarding

alcohol and drug abuse (Jahnke et al., 2014, 3). Firefighters, while on shift, are not allowed to consume alcohol or drugs. Further, the interviews indicated that firefighter culture discourages alcohol and drug use while on duty. Conversely, drinking socially was encouraged after-hours for both social bonding and stress relief. Assuming these findings are correct a fire department would have a clearly written zero-tolerance policy for alcohol and drug abuse.

A shortcoming of the zero-tolerance policy is the lack of effectiveness of such a policy on after-hours alcohol and drug abuse. If the cultural norm in the fire service is to encourage social drinking fire departments would need to implement some program that changed this norm. The same would hold true for stress relief. Implementing the primary level prevention strategy of resiliency training could produce the added benefit of teaching coping strategies outside of alcohol and drug use. There is clearly a lack of evidence leading to components of an alcohol and drug abuse program, outside of a zero-tolerance policy. Regardless of this shortcoming, due to the prevalence of this issue within the fire service, departments should make some attempt, either through resiliency training to relieve stress or changing the cultural norm, to implement an alcohol and drug abuse program.

Tertiary Level Prevention

The secondary prevention components have provided further support and interventions necessary for an effective suicide prevention program. Despite best efforts for preventing suicide there is always the potential for crisis situations. Due to this fact, reactive strategies are necessary in a suicide prevention program. Tertiary level prevention strategies were defined by Witt et al. (2017) “as reactive practices aimed at personnel that are experiencing suicidal thoughts, have been exposed to a critical incident, or who have attempted suicide” (396). Kureckzka defines “critical incidents as events that typically are sudden, powerful events that fall

outside the range of ordinary human experiences. Because they happen so abruptly, they can have a strong emotional impact, even on an experienced, well-trained officer." (Kureckzka, 1996, 10). Previous research supported "critical incident stress debriefing (CISD) as the standard of care for fire service personnel that had been exposed to a critical incident" (NFPA 1500, 2018, 1500-60).

In the past two decades, the efficacy of CISD has been called into question (NFPA 1500, 2018). There are those who support CISD and its efficacy claiming that "incorrect vocabulary and bias" are to blame for the opposing viewpoint (Everly et al., 2000, 23). Conversely, a study by Regehr et al. (2003) points to the ineffectiveness of CISD. Regehr et al. found that firefighters and paramedics who were subjected to CISD are more likely to take a leave of absence and have higher depression (Regehr et al., 2003). As the use of CISD has decreased researchers have attempted new ways to offer reactive services. Those reactive services include: a crisis hotline, suicide intervention skills training, annual mental health checkups, and suicide postvention services. This section offers a discussion of each and the validity of use for each one in a suicide prevention program.

Crisis Hotline

The first of the tertiary prevention strategies to discuss is the creation of a 24-hour crisis hotline. Witt et al. (2017) noted three studies that implemented the use of a crisis hotline. One from the Norwegian military (Mehlum, 1998), the second from the South African police (Welch, 1998) and finally a study conducted with the Quebec police service (Mishara & Martin, 2012). Mishara & Martin's (2012) study was the only one evaluated and will be the focus of discussion. Mishara & Martin (2012) implemented a comprehensive police suicide prevention program, *Together for Life,* in Montreal, Quebec, Canada. The program commenced in 1998, with a

refresher course given to the entirety of the police force in 2006. This was an extensive program including a variety of prevention measures outside of the 24-hour crisis hotline. The efficacy of the entire program was evaluated in 2000-2001 and again in 2010 (Mishara & Martin, 2012, 163). This evaluation exceeds any of the other researchers in stringency as they evaluated at two separate intervals over a considerable number of years. *Together for Life* proved to be an outstanding program with a "79% decrease in suicides for the Montreal police force" (Mishara & Martin, 2012, 167). Mishara & Martin took their efforts one step further by attempting to determine the usefulness of each individual component through focus groups and surveys. The one area they found lacking in efficacy was the 24-hour crisis hotline.

The telephone helpline had a unique strategy in that upon calling the hotline police officers were prompted to choose which crisis situation they were dealing with. The choices included: "work events (traumatic situations); gay and lesbian issues; alcoholism, gambling, and other dependencies; [or] marital and relationship problems" (Mishara & Martin, 2012, 163). The next step in the helpline was for the officer to leave a message and await a police volunteer trained in suicide prevention to return their call. Although the members of the department reported that they found the helpline a "valuable resource, only 46 calls were received from February 1999 to December of 2001" (Mishara & Martin, 2012, 165). The infrequency of use of the crisis hotline leads to a deliberation for inclusion in a suicide prevention program.

On the one hand, it has been established that it is difficult to determine which specific components of a suicide prevention program are effective. However, Mishara & Martin went to great lengths to survey individual areas of the program. On the other hand, there is the department's obligation to

Image 2.4 NVFC Share the Load Crisis Helpline. (NVFC)

maximize both human and financial resources. It is well documented that volunteerism across the country (De Clerk et al., 2019) and particularly in the fire service (Evarts & Stein, 2020) is declining. Further, ESDs are taxpayer funded and therefore under budget constraints when implementing new programs. Given these two factors, along with the foundation of similar helplines[3] by non-profit organizations, it can be assumed that a 24-hour helpline is not of immediate need for an individual fire department to include in suicide prevention. Therefore, this component will not be included in the framework for an effective suicide prevention program.

Suicide Intervention Skills Training

The next area of tertiary services is suicide intervention skills training. Both Warner et al. (2011) and ADF (n.d.) utilize this component of suicide prevention. Warner et al. refers to this program component as "Incident Response and Trend Monitoring" (131), while the ADF uses "Suicide First Aid-Applied Suicide Intervention Skills Training (ASIST)" (ADF, n.d.). ASIST is a training program purchased through a suicide prevention training institute. The main purpose of ASIST is to "provide participants with the skills to identify at-risk individuals and provide initial mental health support" (ADF, n.d.). Warner et al. (2011) had a slightly different approach.

The Incident Response and Trend Monitoring program Warner et al. evaluated was a part of a program developed for a Deployed Army Infantry Division in 2007. The Incident Response and Trend Monitoring were utilized during the deployment phase of the program. There were several facets to the response portion: pre-planned responses were prepared for suicidal and self-harm seeking individuals, those experiencing suicidation were evaluated by chaplains or mental health professionals, those that attempted suicide were sent to the nearest treatment facility for evaluation, and in the event that a member actually committed suicide support was provided to

[3] Please see Appendix for a brief listing of 24-hour helplines.

the unit (Warner, et al., 2011, 131). As the trend monitoring contains components classified as postvention services those components will be discussed later in this chapter.

Warner, et al. (2011) found that there was a noticeable reduction in the number of suicides of the deployed unit. As stated repeatedly, whether the effectiveness of the program is due to one component or the whole of the program is undetermined. Due to the in-depth explanation of the Incident Response and Trend Monitoring Program and the suicide reduction of the infantry unit this element will be used as a component in tertiary prevention level resources.

Annual Mental Health Checkups

One of the intriguing aspects of a suicide prevention program that Witt et al. (2017) pointed out was annual mental health checkups. As mentioned earlier, firefighters are required by TCFP to have annual physical checkups and a mental health checkup could be as beneficial and necessary as the physical checkup. Witt et al. (2017) cited only one study that had used these mental health checkups, Levenson Jr. et al., however, this study was from a police perspective and the efficacy of the program was not established (Witt et al., 2017, 399).

Given that there was no clear evidence of support for annual mental health checkups specifically focused on the fire service the literature was searched to ascertain if evidence that a mental health checkup showed promise for inclusion in a suicide prevention program. Chen et al. (2007) conducted such a study in Kaohsiung, Taiwan. The objective of the study was "to determine the relationship between quality of life and post-traumatic stress disorder and major depression in firefighters" (Chen, 2007, 1289). The link between post-traumatic stress, depression, and suicide has been effectively established. For instance, decreasing depression

leads to decreased suicide rates. Therefore, the Chen et al. (2007) study is valid to determine the inclusion of the annual mental health checkup component within a suicide prevention program.

Chen et al. (2007) conducted a two-stage survey study in Taiwan. A survey was sent to all firefighters and a total of 412 voluntarily joined and completed the program. Once survey data had been processed psychiatrists classified the respondents by level of PTSD or major depression (Chen et al., 2007, 1291). This diagnosis led to firefighters being given a specific mental health regimen to conduct; mental health "exercises" in the same way they are given physical exercises to perform. Mental health managers were then directed to remain in contact with firefighters and encourage them to continue with these mental health exercises (Chen et al., 2007, 1291).
As evidenced by Davis (2005) and Cecconello et al. (2014) resiliency training is a beneficial component and adding in a yearly mental health checkup could lead to greater success. This allows for the opportunity for firefighters to have a one-on-one consultation with a psychiatrist or mental health manager to implement a mental health program that is of the most use for the individual. Mental health checkups also provide the opportunity for building trust with those outside the fire department before a crisis happens. Despite the lack of clear evidence of the effectiveness of mental health checkups, the possible benefits and apparent synergistic effects with other components dictate inclusion of this component in a suicide prevention program.

Suicide Postvention Services

The final component at the tertiary level are suicide postvention services. Warner et al., (2011) used postvention services and referred to it as trend monitoring. The aim of trend monitoring was to track those who committed suicide and establish a standard of care review in the aftermath of a suicide (Warner et al., 2011, 131). Gulliver et al. (2016) went further with the definition noting that postvention services are those services "designed to reduce the trauma of

the loss, reduce stigma, increase firefighter coping skills, and prevent cluster suicides among firefighters." (Gulliver et al., 2016, 124). Suicide postvention services are of extreme importance. There is "substantial evidence that repeated exposure to painful and provocative experiences (e.g., nonsuicidal self-injury, exposure to suicide) is associated with both acquired capability for suicide and suicidal behavior" (Kimbrel et al., 2016, 2).

The work of Gulliver et al. (2016) clearly illustrates what postvention services entail. In conjunction with the New York Fire Department (NYFD) Gulliver et al. developed a SOP with the goal of establishing a national guideline for postvention services. To this end Gulliver et al. (2016) evaluated NYFD's SOPs. After completion of the review members of the department were asked to be a part of a focus group. These focus groups formed the basis for changes made to FDNY SOPs. Gulliver et al. (2016) noted the following items for inclusion in suicide postvention services SOP: "notification procedures, department response, procedures for suicides that happen on and off station grounds, how the department should respond to the family and firefighters, having a time available to firefighters and members to have discussions about the suicidal event" (Gulliver et al., 2016, 124). In order to best serve the members of a fire department a similar SOP is recommended to maximize efforts in preventing further suicides.

Chapter Summary

It is clear from the literature review that a holistic and well documented program is beneficial and has some effect on reducing suicide rates. The components of such a program build upon each other and interconnect through each prevention level. It is also apparent that there remain many unanswered questions and more research in the area of suicide prevention for the fire service is needed. Despite the deficiencies in empirical evidence there is sufficient evidence to support the components of a suicide prevention program. To this end, the

components discussed throughout the chapter are summarized and connected to the literature in the following conceptual framework table which was used to develop a model assessment tool for ESD fire departments within Hays County Texas.

Table 2.1: Conceptual Framework Linked to Literature Review	
Category 1: Management Component	Literature Sources
1.1 Written program for assessment	§435.21 (a), Stoermer (2019), Gulliver et al. (2016)
1.2 Written SOP to address wellness and fitness	§435.21 (c)
1.3 Written policy on alcohol, substance abuse and other behavior health conditions	NFPA 1500 12.1.2.1
1.4 Adherence to HIPAA and health files separate from other personnel records	NFPA 1500 12.1.2.2.2
Category 2: Primary Level Prevention	Literature Sources
2.1 Reducing Stigma	Chen (2007); Davis (2005); Fahy & Molis (2019); Finney et al. (2015); Fisher & Etches (2003); Hackett & Violanti (2003); Harrington (2017); Heitman (2016); 2016; Henderson et al. (2016); Knox et al. (2003); Kuehl et al. (2015)
2.2 Resiliency Training	Bellon (2017); Davis (2005); Ellis (2019); Fisher & Etches (2003); Issac (2012); Johnson (2011)
2.3 Leadership Training	Damien (2019); Finney et al. (2015); Knox et al. (2003); Harrington (2017); Henderson et al. (2016); Mishara & Martin (2012)
2.4 Prescreening of Recruits	Carlisle & Brook (1999); Dedic & Panic (2007); Finney et al. (2015)
Category 3: Secondary Level Prevention	Literature Sources
3.1 Awareness Training	Australian Defense Force (2020); Bagley et al. (2010); Davis (2005); Dedic and Panic (2007); Fahy & Molis (2019); Finney et al. (2015); Henderson et al. (2016); James and Kowalski (1996); Jones (2001); Knox et al. (2003); Mishara & Martin (2012); Rozanov et al. (2002); Stoermer (2019); Warner et al. (2011)
3.2 Gatekeeper Training	Australian Defense Force (2020); Bagley et al. (2010); Dedic and Panic (2007); Finney et al. (2015) Mishara & Martin (2012); Rozanov, et al. (2002); Warner et al. (2011)
3.3 Surveillance Procedures	Carpenter (2015); James and Kowalski (1996); Knox et al. (2003); Warner et al. (2011)
3.4 Crisis Intervention Team	Finney et al. (2015), Knox et al. (2003), Warner et al. (2011)

3.5 Peer Support Programs	Beaton et al. (1997); Bellon (2017); Boffa et al. (2016); Carpenter et al. (2015); Cecconello et al. (2014); Chen et al. (2007); Fahy & Molis (2019); Fay et al. (2006); Finney et al. (2015); Gist et al. (2011); Henderson et al. (2016); Issac (2012); James and Kowalski (1996); Knox et al. (2003)
3.6 Alcohol and Drug Program	James and Kowalski (1996); Mishara & Martin (2012); Jahnke (2014)
Category 4: Tertiary Level Prevention	Literature Sources
4.1 Suicide Intervention Skills Training	Australian Defense Force (2020); Finney et al. (2015)
4.2 Annual mental health check-ups	Chen et al. (2007); Witt et al. (2017)
4.3 Suicide postvention services	Bellon (2017); Fay et al. (2006); Gulliver et al. (2016); Henderson et al. (2016); Stoermer (2019)

Chapter 3: Methodology

Chapter Purpose

The purpose of this chapter is to provide detailed information about the five TCFP certified ESD fire departments that were analyzed for this case study: South Hays Fire Department (HCESD 3), Wimberley Fire & Rescue (HCESD 4), Kyle Fire Department (HCESD 5), North Hays County Fire & Rescue (HCESD 6), and Buda Fire Department & EMS (HCESD 8). Further, the details of data collection and data analysis are explained, and the strengths and weaknesses explored. The chapter concludes with the operationalization of the conceptual framework.

Case Study

A holistic multiple-case study method was chosen for this research project due to a case study's ability to bring about an in depth understanding that is characteristically different from other research methods. In fact, Yin states that, "The closeness [to a case] aims to produce an invaluable and deep understanding—that is, an insightful appreciation of the "case(s)"—hopefully resulting in new learning about real-world behavior and its meaning" (Yin, 2011, 4). In exploring the cases of Hays County ESD fire departments the suicide prevention framework that was created can be brought to reality and tested in a real-world situation. This gives full opportunity to ascertain the effectiveness of the framework and serve as a guide for other fire departments. Further, the use of multiple cases allows for greater certainty that the framework is a viable tool (Yin, 2011, 9).

There are benefits and weaknesses to the case study method; strengths include flexibility and an emphasis on context. It is these two characteristics that led to the choice of a case study. The nature of suicide research requires extreme flexibility and a need for the results to have a "human face" (Commentary on Cases Studies, n.d.). On the other hand, weaknesses include

subjectivity and ethical considerations. Though every precaution was taken in developing a codifying sheet (Appendix B) before the case study began, there is a possibility of 'inferring too much from [the case]' on the part of the researcher (Commentary on Cases Studies, n.d.). Finally, ethical considerations such as personal integrity, sensitivity and prejudice can become a part of the case study. For this particular research project, it was deemed that the benefits of the case study method outweighed the weaknesses. The next section will explore the cases that will be researched.

Research Setting: Hays County ESD Fire Departments

As mentioned, Hays County is ranked the second fastest growing county in the nation (Hays County Ranked, 2020). With the projected growth, ESDs will face an increased demand for personnel. The challenge of providing fire protection services only intensifies with the added toll of providing emergency medical services. This section provides the history and status of each ESD fire department. The purpose of highlighting the facts of each department is to provide support for the need to have a firm suicide prevention plan in place as personnel join each department. As pointed out in the literature review, it is clear that suicide prevention starts with recruits of the department and continues through a firefighter's career.

All five TCFP fire departments have a similar background and growth history. Each department began as a fully volunteer fire department and then expanded over the years with the growth of the community they serve. The transition of each department is outlined below and summarized in Table 3:1.

South Hays Fire Department (HCESD 3)

The history of South Hays Fire Department (SHFD) is not readily available on its website. The website does however note that ESD #3 began leadership of SHFD in 2013. An effort was made to determine SHFD population, however the gathering of this information was hindered by the fact that the service area lies on the outskirts of San Marcos, Texas which has a municipality-maintained fire department and SHFD also surrounds an area that is covered by another ESD, ESD #4. SHFD currently has 32 TCFP certified firefighters (TCFP, n.d.) and three fire stations.

Figure 3:1 South Hays Fire Dept. Logo
www.southhaysfire.com

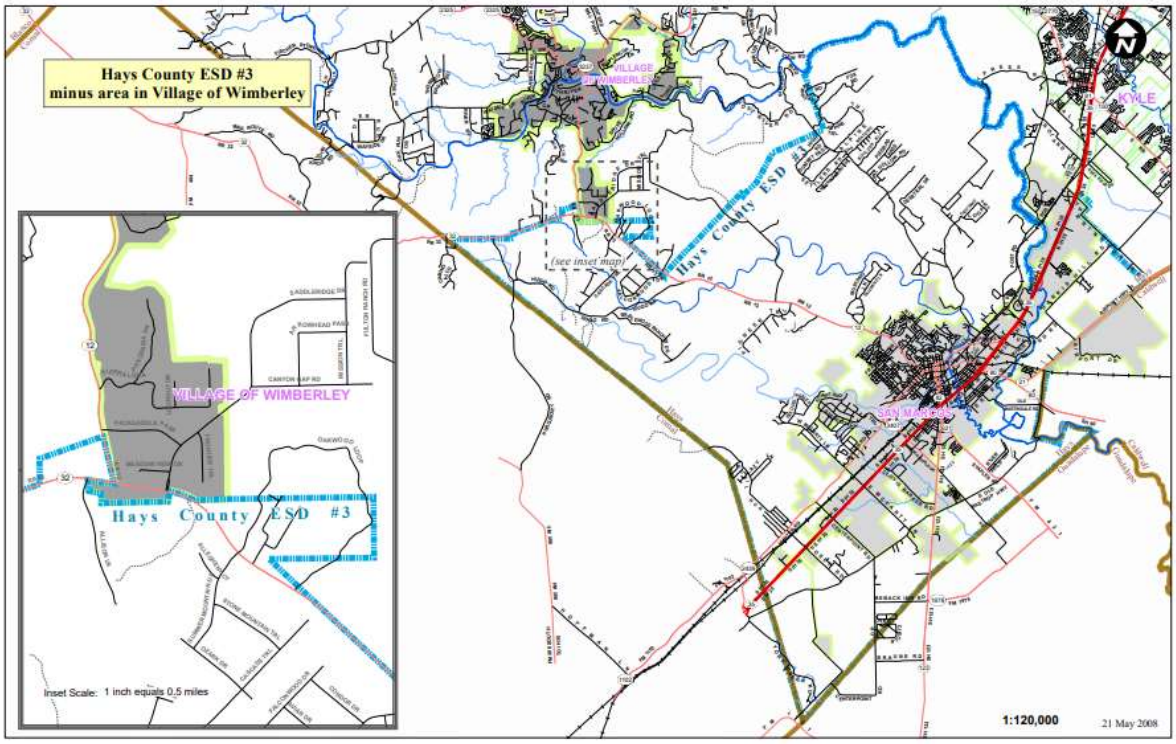

Figure 3:2 HCESD #3 South Hays Fire Department service area map. (Hays County ESD#3, 2008)

Wimberley Fire & Rescue (HCESD 4)[4]

Figure 3:3 Wimberley Fire Rescue Logo
www.wimberleyfire.org

Wimberley Fire & Rescue (WFR) is the most recent addition to TCFP certified fire departments in Hays County with a total of 22 TCFP certified fire fighters (TCFP, n.d.). Wimberley Volunteer Fire Rescue was founded in 1953 and over the next 30 years grew in size and capabilities to form a Rural Fire Prevention District in 1983. The Rural Fire Prevention District was the predecessor to Emergency Services Districts in Texas. In 2018 Hays County ESD #4 assumed control and management of WFR volunteer department which mandated that WFR become a TCFP fire department. The area WFR serves is similar to North Hays County Fire Rescue in that it is very rural. Due to the rural nature WFR has four stations that allow for an adequate call time response rate.

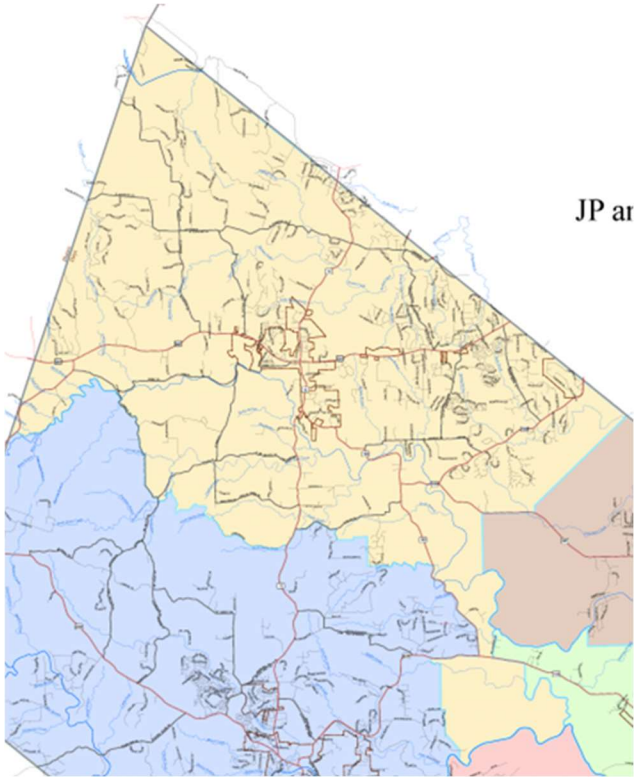

Figure 3:4 HCESD #4 Wimberley Fire Rescue service area map.
(www.wimberleyfire.org)
Note: The Yellow area represents HCESD #4 service area.

[4] All information, unless otherwise noted, from wimberleyfire.org

Kyle Fire Department (HCESD 5)[5]

Figure 3:5 Kyle Fire Dept. Logo
www.kylefire.com

Kyle Fire Department (KFD) was founded in 1880. As the city of Kyle grew and faced new challenges and fire threats the department expanded and has seen many changes; in 2006 the first paid career firefighter was placed on duty. There are three fire stations that serve the city of Kyle and surrounding areas. KFD currently has 46 TCFP certified firefighters and is the largest of the Hays County TCFP fire departments. (TCFP, n.d.). KFD serves a population of over 48,000 residents (U.S. Census Kyle, 2019).

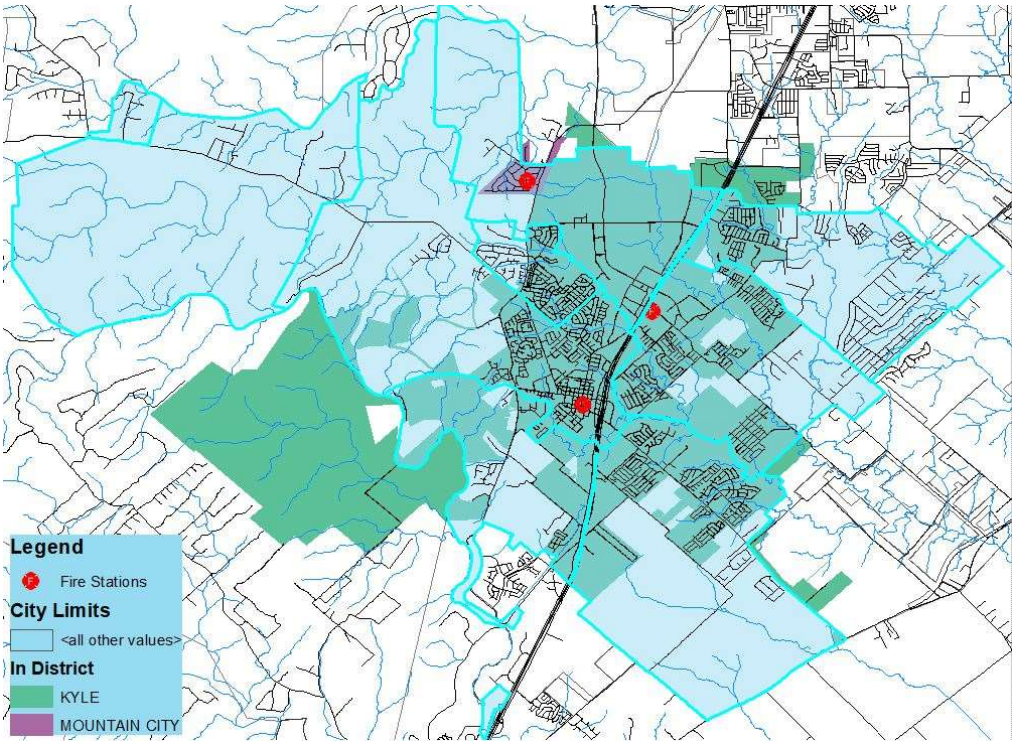

Figure 3:6 HCESD #5 Kyle Fire Department service area map. (Permission for use granted by Kyle Fire Department)

[5]All information, unless otherwise noted, from www.kylefire.org.

North Hays County Fire Rescue (HCESD 6)

North Hays County Fire/Rescue (NHCFR) does not provide a history of the department on their website. The few facts that can be obtained state that in 2007 three volunteer departments, North Hays Volunteer Department, Driftwood Volunteer Fire Department, and Henly Volunteer Department merged to form NHCFR. (Henly VFD BBQ, 2017). The vast amount of rural area covered by NHCFR mandates that the department have six fire stations in order to maintain adequate call response rates. There are currently 40 TCFP certified firefighters on staff at NHCFR (TCFP, n.d.). NHCFR serves a population of roughly 5,700 citizens (U.S. Census Dripping Springs, 2019).

Figure 3:7 North Hays County Fire Rescue Logo
www.northhaysfire.com

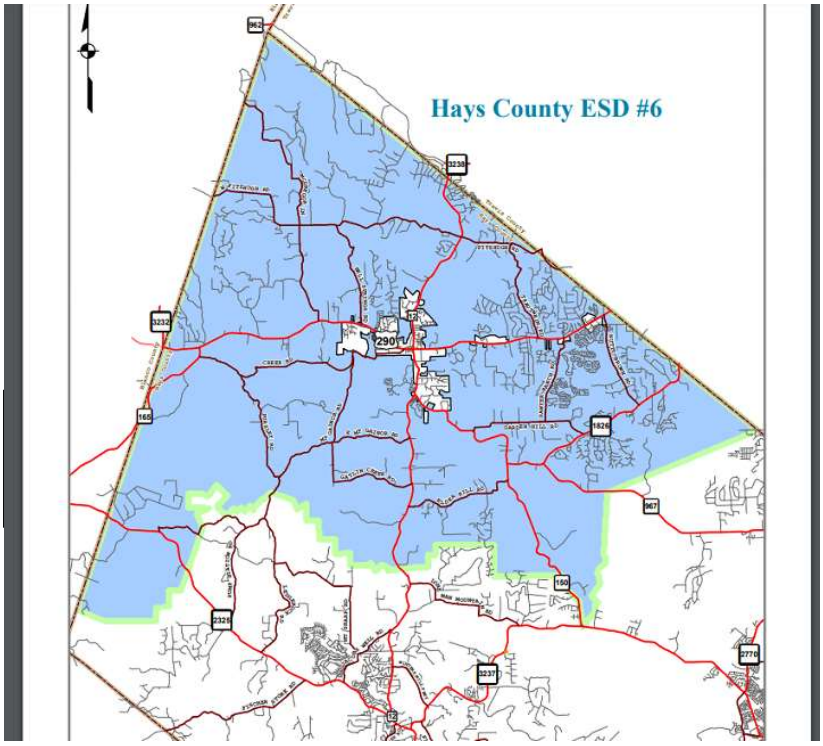

Figure 3:8 HCESD #6 North Hays County Fire/Rescue service area map. (Permission for use granted by North Hays County Fire/Rescue.)

Buda Fire Department & EMS (HCESD 8)[6]

Figure 3:9 Buda Fire & EMS Logo www.budafire.org

Buda Fire & EMS (BFDEMS) was founded in 1956. As the city of Buda grew the department expanded and has seen many changes; in 2003 the volunteer department became an ESD and in 2005 a career chief and a full staff was added to BFDEMS. During the years from 2008 to 2010 the city of Buda experienced such a growth rate that two more stations were added and BFDEMS began responding to emergency medical services calls (About Buda, n.d.). BFDEMS currently has 42 TCFP certified firefighters (TCFP, n.d.) that serve a population of over 16,000 residents (U.S. Census Buda, 2019).

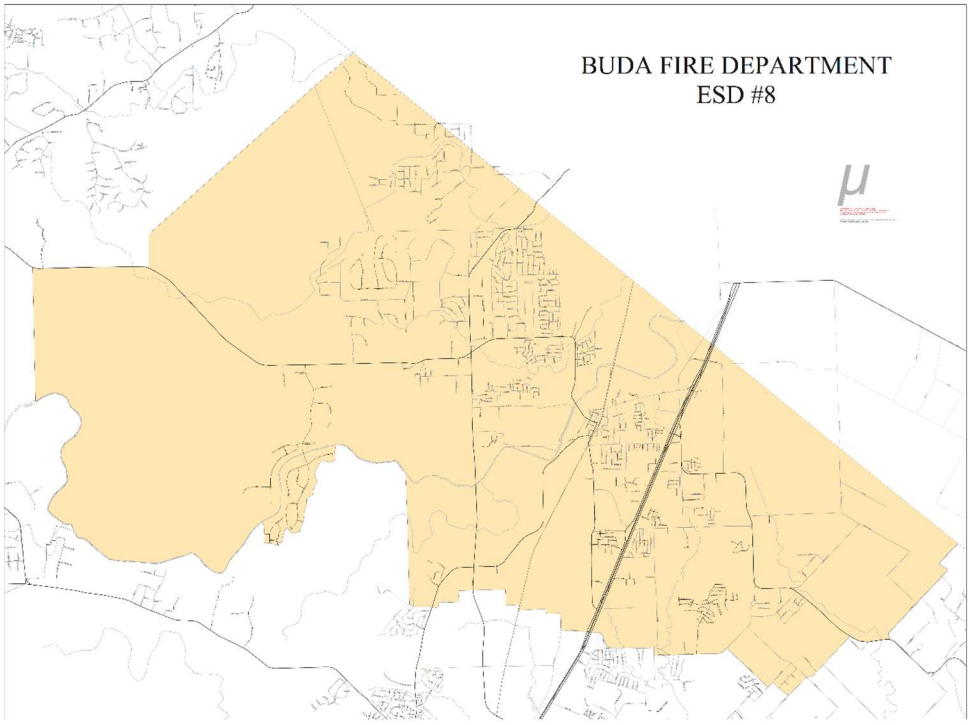

Figure 3:10 HCESD #8 Buda Fire & EMS service area map. (About Buda, n.d.)

[6] All information, unless otherwise noted, from (*About* Buda Fire*, n.d.)*.

Table 3:1 **Fire Department Comparison Chart**						
ESD#	DEPARTMENT	YEAR FOUNDED	YEAR ESD TOOK CONTROL OF DEPARTMENT	NUMBER OF TCFP FIRE PERSONNEL	NUMBER OF STATIONS	POPULATION SERVED
ESD 3	South Hays County Fire & Rescue	Unknown	2013	32	3	Unknown
ESD 4	Wimberley Fire & Rescue	1953	2018	22	4	Unknown
ESD 5	Kyle Fire Dept.	1880	2006	46	3	48,000+
ESD 6	North Hays County Fire & Rescue	Unknown	2007	40	6	5,700+
ESD 8	Buda Fire & EMS	1956	2003	42	3	16,000+

All five departments in Hays County face similar challenges in responding to an increasing number of calls and providing EMS response. However, each department is unique in geographical location and staffing needs and requirements. One of the goals of this case study was to determine if the departments have similar or differing approaches to suicide prevention programs. The next section of this chapter addresses the method of data collection.

Document Analysis as a Method of Data Collection

Document analysis was the chosen method of data collection to determine if Hays County ESD departments have an ideal model suicide prevention program in place. “Document analysis is a systematic procedure for reviewing or evaluating documents” (Bowen, 2009, 27). In this instance documents from each of the five identified fire departments within Hays County, Texas were collected and reviewed.

Strengths of Document Analysis

Document analysis is applicable to this research project due to the ability of a document analysis to "draw rich descriptions" (Stake, 1995; Yin, 1994, as cited in Bowen, 2009) about each of the fire departments suicide prevention programs. Another particular advantage of this method is document analysis' unobtrusiveness and non-reactionary process (Bowen, 2009). When approaching the subject of suicide the risks when interacting with human subjects is high. The use of survey, interview, or observation could potentially trigger suicidality in participants.

Therefore, using document analysis allows for a non-reactionary means of data collection. Other advantages include efficient data collection, cost effectiveness, stability, and exactness (Bowen, 2009). Taking all these advantages into consideration made document analysis the best choice for determining the efficacy of suicide prevention programs within Hays County ESD TCFP fire departments.

Weaknesses of Document Analysis

As in other types of research, document analysis has disadvantages. Most importantly, document analysis "cannot [be treated] as firm evidence of what they report" (Arkinson & Coffey, 1997, 47, as cited in Bowen, 2009). In other words, documents are created to tell a part of the story that is deemed important but does not always tell the full story. There may be other facts outside of documents that influence the efficacy of suicide prevention programs. For example, a champion of the program within the department is not likely to be found through analyzing documents. This would be more suited for surveys or interviews.

Research Procedure

An email was sent to each fire department chief requesting the following documents and information: Standard Operating Guidelines or Procedures, Employee Assistance Program

Information, Employee Handbooks, Training manuals developed addressing mental and behavioral wellness, and Policy and Procedure manuals; or any other documents related to mental health. Document analysis was then performed using the method outlined by Bowen (2009). This method is briefly described here.

First each document was manually skimmed to find relevant text. Secondly, the documents were carefully reread to perform coding. Finally, the 'Find' function within Word and Adobe were utilized to ensure that all relevant words were not overlooked. The coding sheet used for each department is presented as Appendix B.

The formation of a coding sheet prior to analysis of the documents was done to decrease the likelihood of researcher bias and increase objectivity (Bowen, 2009). Document coding sheets were examined, and interpretations drawn based on the following guidelines:

0. No documentation in place (needs improvement).
1. There is a document in place addressing the subtopic (minimum).
2. The document contains 1-2 keywords or ideas (below average).
3. The document contains 3-4 keywords or ideas (meets criteria).
4. The document contains 5+ keywords or ideas (exceeds standards).

Finally, the strengths of departments were pointed out to encourage other departments in the formation of an effective suicide prevention program and recommendations for improvement were given when appropriate. Details of this interpretation and analysis are discussed fully in Chapter 4.

Operationalizing the Conceptual Framework

The conceptual framework is operationalized in Table 3.2. The purpose of the operationalization table is to show how the components of the ideal model for a suicide prevention program are measured. The table links the criteria for a successful program, the justification for inclusion of the criteria, and how the criteria were evaluated.

Table 3.2 Operationalization Table			
Category	**Research Method**	**Sources**	**Evidence**
Category 1: Management Component ➢ 1.1 Written program for assessment ➢ 1.2 Written SOP to address wellness/fitness ➢ 1.3 Written policy on alcohol, substance abuse and other behavioral health conditions ➢ 1.4 Adherence to HIPAA/health files separate from personnel records	Document Analysis	Standard Operating Guidelines/Procedures (SOP's/SOP's)	1.1 Is there a written program for assessment?
			1.2 Is there a written SOP that addresses wellness and fitness?
			1.3 Is there a written alcohol, substance abuse and other behavioral health conditions?
			1.4a Does the department have in writing how it complies with HIPAA?
			1.5b. Does the department keep health records separate from other personnel records?
Category 2: Primary Level Prevention 2.1 *Cultural Stigma*: ➢ Willingness to ask for help ➢ Are mental health services provided by an "in house team" ➢ Buy-in ➢ Fear of Job Loss ➢ Confidentiality breach ➢ Lack of interest ➢ Do you feel you are supported mentally? ➢ Is the program supportive/punitive?	Document Analysis	SOP's/SOP's EAP documents Employee Handbook	2.1a Does the department create buy-in?
			2.1b Is the program that is in place supportive vs. punitive?
			2.1c Key words that indicate department is creating buy-in
			2.1d. Is it clearly stated that leadership is supportive?
			2.1e. Is it clearly stated that confidentiality is imperative?
2.2 Resiliency Training ➢ Mindfulness activities ➢ Building Social Support Systems ➢ Minimizing job stress	Document Analysis	SOP's/SOP's Employee Handbook	2.2a Does the department provide resiliency training?
			2.2b Does the department offer mindfulness activities and coping strategies?
2.3 Leadership Training ➢ Emotional screening tool ➢ Suicide awareness ➢ Identifying high risk candidates ➢ Champions of the program	Document Analysis	SOP's/SOP's Job Descriptions	2.3a Is leadership trained in suicide awareness?
			2.3b Is leadership trained in identifying high risk suicide candidates?
			2.3c Is leadership a champion of the program?

			2.3d Is an emotional screening tool utilized in promotion to leadership positions?
			2.3e Key traits necessary for the leadership team are identified.
2.4 Prescreening of Recruits ➢ Recruits are prescreened ➢ Personality Inventory ➢ Mental health screening and background check ➢ Suicide awareness training ➢ Stress awareness and coping mechanisms ➢ Mock Exercises	Document Analysis	SOP's/SOP's Job Description New Hire Application	2.4a. Is a personality inventory and/or mental health screening given to recruits at onboarding?
			2.4b. Are recruits required to pass a mental health exam?
			2.4c. Are recruits required to pass a background check?
			2.4d. Are recruits required to attend suicide training during onboarding?
			2.4e. Keywords that indicate department has a strong recruit training program.
Category 3: Secondary Level Prevention 3.1 Awareness Training ➢ Suicide prevention team ➢ Mandatory presentations ➢ Officer training ➢ Continuing Education	Document Analysis	SOP's/SOP's Employee Handbook	3.1a Does the department provide suicide awareness training?
			3.1b Is there a suicide prevention team in place?
			3.1c Is there a train the trainer program?
			3.1d Is there a mandatory suicide awareness seminar/training in place?
			3.1e Does the department provide separate mandatory training for officers?
			3.1f. Is there a continuing education component to the program?
3.2 Gatekeeper Training ➢ Leadership taught support services ➢ Support staff taught signs	Document Analysis	SOP's/SOP's Employee Handbook	3.2a. Is gatekeeper training provided?
			3.2b Key terms indicating effective gatekeeper training.
3.3 Surveillance Procedures ➢ Training in response to warning signs	Document Analysis	SOP's/SOP's Employee Handbook	3.3a Are surveillance procedures in place?

➢ Trained in starting conversations ➢ Available resources readily available			3.3b. Which surveillance procedures are utilized?
3.4 Crisis Intervention Team ➢ Members ➢ Purpose	Document Analysis	SOP's/SOP's Employee Handbook	3.4a Does the department have a crisis intervention team?
			3.4b. Members of crisis intervention team.
			3.4c. Does the crisis intervention team have periodic reviews of successes and failures?
3.5 Peer Support Programs ➢ Members trained to identify crisis ➢ And referral procedures ➢ Facilitate change in cultural stigma	Document Analysis	SOP's/SOP's Employee Handbook	3.5 Is there a peer support team in place?
3.6 Alcohol and Drug Program ➢ Stigma of on duty vs. off duty alcohol use ➢ Taught other coping mechanisms ➢ Zero-tolerance policy	Document Analysis	SOP's/SOP's Employee Handbook EAP	3.6a. Does the department have an alcohol and drug abuse program in place that discourages drinking/drug use as a coping mechanism?
			3.6b. Is there a zero-tolerance policy for drug and alcohol use while one duty?
Category 4: Tertiary Level Prevention 4.1 Suicide Intervention Skills Training ➢ Prepared responses for suicidal persons ➢ Evaluation by mental health professionals ➢ Treatment facility is listed on resources ➢ Support is provided to the unit	Document Analysis	SOP's/SOP's Employee Handbook EAP	4.a. Does the department use CISD?
			4.1a. Does the department offer suicide intervention skills training?
			4.1b. Evidence of an effective intervention skills training program.
			4.2a Are annual mental health checkups a requirement?
4.2 Annual mental health check-ups ➢ Mandatory mental health check-ups ➢ Mental health exercises assigned by doctor	Document Analysis	SOP's/SOP's Employee Handbook	

4.2 Annual mental health check-ups ➢ Mandatory mental health check-ups ➢ Mental health exercises assigned by doctor 4.3 Suicide postvention services ➢ Written postvention ➢ Notification procedures ➢ Department response ➢ On or off grounds ➢ Family and firefighter response by dept. Time for discussion of the event	Document Analysis Document Analysis	SOP's/SOP's Employee Handbook SOP's/SOP's Employee Handbook	4.2b Are members prescribed mental health "exercises"? 4.2c Are members in distress assigned a mental health manager? 4.3a. Does the department practice trend monitoring? 4.3b. Does the department have a standard of care review in place? 4.3c. Key terms that indicate a well-developed postvention services SOP.

Chapter Summary

This chapter provided a brief history and growth of each department and explained the methodology used to gather data on the suicide prevention programs currently held by ESD fire departments in Hays County. The chapter concluded with the operationalizing of the conceptual framework. The next chapter provides analysis and discussion of the results of the document analysis for each department.

Chapter 4 Results

Chapter Purpose

The purpose of this chapter is to present the findings from the document analysis of each of the five Hays County ESD TCFP certified fire departments. A summary of supplied documents and the documents effective date are summarized in table 4.1. The conceptual framework was utilized to organize document content. Each section in this chapter corresponds to one of the five fire departments and is further broken down into the categories of management component, primary level prevention, secondary level prevention, and tertiary level prevention.

Table 4.1 Summary of Documents

Department	Document Title	Effective Date
South Hays Fire Rescue	IB Member Assistance Program	June 1, 2019
South Hays Fire Rescue	IB Wellness and Fitness Program	June 1, 2019
Wimberley Fire Rescue	ESD 4 Employee Handbook	Draft
Wimberley Fire Rescue	ESD 4 Wellness and Fitness	June 10, 2020
Kyle Fire Department	2019 FINAL SOPs	December 16, 2019
Kyle Fire Department	Deer Oaks Flyer	September 9, 2020
North Hays County Fire Rescue	SOP_Wellness	No Date
North Hays County Fire Rescue	Train_Wellness	No Date
Buda Fire & EMS	Buda Fire Peer Support Team	To Be Determined

Hays County ESD #3 South Hays Fire Department

South Hays Fire Department (SHFD) provided the department's standard operating procedures for the Member Assistance Program and Wellness and Fitness Program. The coding sheet was completed based upon these two documents and the results are outlined below. Charts were developed for each of the categories and the subcategories for the ideal model of a suicide prevention program. The data was scored based upon the rating system developed in Chapter 3 pg. 49. SHFD could receive a score from 0 to 4 with 0 being no documentation in place and 4 being the documents exceed standards as defined by the ideal model.

Management Component

SHFD met all TCFP requirements for the management component of a wellness and fitness program. The SOPs provided by SHFD far exceed any of the other departments that were included in this case study. SHFD went so far as to include resources available to the department and means in which firefighters could focus and improve their behavioral health. Though suicide is not mentioned specifically, SHFD has made a considerable effort to create a well-developed plan to prevent suicide within their department.

Table 4.2 South Hays Fire Department Management Component	
Category	Rating
Is there a written program for assessment?	4
Is there a written SOP that address fitness and wellness?	4
Is there a written document addressing alcohol, substance abuse, and other behavioral health conditions?	3
Does the department have in writing how it complies with HIPAA?	4
Does the department keep health records separate from other personnel records?	4

Primary Level Prevention

SHFD is one of two departments that indicate they are creating buy-in: the other being North Hays County Fire Rescue. They have clear language that indicates that the program is supportive, that there is no reprisal for using the programs in place, and that confidentiality is paramount to the success of their wellness and fitness program. This is key in encouraging firefighters to use the program. Further, the SOPs of the department indicate that coping strategies are encouraged. These strategies include talking to someone, deep breathing exercises, getting enough rest, and exercise in general. As shown in the table below SHFD exceeds

standards in the subcategory of reducing cultural stigma and meets the criteria for an ideal suicide prevention program in the area of resiliency training.

Table 4.3 South Hays Fire Department Primary Level Prevention	
Category	Rating
Buy-in	4
Supportive vs. punitive	3
Key words indicating buy-in	4
Leadership is supportive	0
Confidentiality is imperative	4
Resiliency training provided	1
Mindfulness activities and coping strategies	3
Leadership training suicide awareness	0
Leadership training in high-risk suicide candidates	0
Leadership is champion of the program	0
Emotional screening tool utilized for leadership promotion	0
Key leadership traits are identified	2
Personality inventory or mental health screening for recruits	0
Recruits required to pass mental health exam	0
Recruits are required to attend suicide training	0
Department has strong recruit training program	0

Secondary Level Prevention

SHFD stands apart from the other departments in secondary level prevention as well. The department has made strides to establish training in suicide awareness and to have surveillance procedures in place. SHFD is also the only department that specifically encourages coping mechanisms other than alcohol for stress relief. This indicates that the department is making an attempt at changing the cultural norm within the department regarding alcohol use off duty.

Table 4.4 South Hays Fire Department Secondary Level Prevention	
Category	Rating
Suicide awareness training provided	2
Suicide prevention team in place	0
Train the trainer program	0

Mandatory suicide awareness seminar/training	0
Mandatory training for officers	0
Continuing education component present	0
Gatekeeper training provided	0
Surveillance procedures in place	1
Crisis intervention team	0
Peer Support team	0
Alcohol and drug abuse program that discourages drinking/drug use as a coping mechanism	4
Zero-tolerance policy for drug and alcohol use while on duty	0

Tertiary Level Prevention

SHFD only met the minimum requirement for intervention skills training and failed to meet any other criteria for the tertiary level prevention category.

Table 4.5 South Hays Fire Department Tertiary Level Prevention	
Category	Rating
Department uses CISD	0
Suicide intervention skills training offered	2
Annual mental health checkups required	0
Mental health exercises prescribed	0
Mental health managers utilized	0
Trend monitoring practiced	0
Standard of care review in place	0
Postvention services SOP	0

Hays County ESD #4 Wimberley Fire Rescue

Wimberley Fire Rescue (WFR) provided the department's Employee Handbook and Wellness and Fitness Standard Operating Guideline Section 200-27. The coding sheet was completed and the results are outlined below. Charts were developed for each of the categories and subcategories for the ideal model of a suicide prevention program. The data was scored based upon the rating system developed in Chapter 3 pg. 49. WFR could receive a score from 0

to 4 with 0 being no documentation in place and 4 being the documents exceed standards as defined by the ideal model.

Management Component

WFR met all TCFP's requirements for the management component of a wellness and fitness program. However, the focus of the SOP was on physical wellness. WFR only mentioned mental health briefly in their SOP, though an attempt was made to stress the importance of mental health. Table 4.6 has a summary of WFR's results.

Table 4.6 Wimberley Fire Rescue Management Component

Category	Rating
Is there a written program for assessment?	4
Is there a written SOP that address fitness and wellness?	3
Is there a written document addressing alcohol, substance abuse and other behavioral health conditions?	3
Does the department have in writing how it complies with HIPAA?	4
Does the department keep health records separate from other personnel records?	4

Primary Level Prevention

Unfortunately, WFR failed to meet the minimum standard for primary level prevention strategies. This could be due to the fact that they are very new to TCFP and need time to develop their suicide prevention program. Based on review of the documents, WFR does not create buy-in. The only concession would be the strict confidentiality that WFR purports to maintain in all its endeavors. Confidentiality is the only area that received a score of 'exceeds standards' in the entirety of WFR's assessment for an ideal suicide prevention program.

Table 4.7 Wimberley Fire Rescue Primary Level Prevention

Category	Rating
Buy-in	0
Supportive vs. punitive	0
Key words indicating buy-in	2

Leadership is supportive	0
Confidentiality is imperative	4
Resiliency training provided	0
Mindfulness activities and coping strategies	0
Leadership training suicide awareness	0
Leadership training in high-risk suicide candidates	0
Leadership is champion of the program	0
Emotional screening tool utilized for leadership promotion	0
Key leadership traits are identified	0
Personality inventory or mental health screening for recruits	0
Recruits required to pass mental health exam	0
Recruits are required to attend suicide training	0
Department has strong recruit training program	0

Secondary and Tertiary Level Prevention

There is no evidence within the documents provided that WFR has any secondary or tertiary level prevention strategies in place. The department received zeros in every category and subcategory. WFR failed to meet the ideal model for a suicide prevention program, with the exception of the management component which is required by law for them to have.

Table 4.8 Wimberley Fire Rescue Secondary Level Prevention	
Category	Rating
Suicide awareness training provided	0
Suicide prevention team in place	0
Train the trainer program	0
Mandatory suicide awareness seminar/training	0
Mandatory training for officers	0
Continuing education component present	0
Gatekeeper training provided	0
Surveillance procedures in place	0
Crisis intervention team	0
Peer Support team	0
Alcohol and drug abuse program that discourages drinking/drug use as a coping mechanism	0

Zero-tolerance policy for drug and alcohol use while on duty	0

Table 4.9 Wimberley Fire Rescue Tertiary Level Prevention	
Category	Rating
Department uses CISD	0
Suicide intervention skills training offered	0
Annual mental health checkups required	0
Mental health exercises prescribed	0
Mental health managers utilized	0
Trend monitoring practiced	0
Standard of care review in place	0
Postvention services SOP	0

Hays County ESD #5 Kyle Fire Department

Kyle Fire Department (KFD) provided the entirety of the department's standard operating procedures along with a flyer from the department's Employee Assistance Program. This program, Deer Oak Employee Assistance Program, is an outsourced component within KFD that provides services that assist employees in solving life issues which include some components that are related to a suicide prevention program. The coding sheet was completed based upon these two documents and results are outlined below. Charts were developed for each of the categories for the ideal model of a suicide prevention program. The data was scored based upon the rating system developed in Chapter 3 pg. 49. KFD could receive a score from 0 to 4 with 0 being no documentation in place and 4 being the documents exceed standards as defined by the ideal model.

Management Component

KFD met the requirements for the management component of a wellness and fitness program. Like Wimberley Fire Rescue, KFD's focus was on physical fitness and wellness while

the mental and behavioral wellness component was only addressed briefly. Table 4.10 summarizes KFD's results, Chapter 5 will address improvements to the management component.

Table 4.10 Kyle Fire Department Management Component	
Category	Rating
Is there a written program for assessment?	4
Is there a written SOP that address fitness and wellness?	3
Is there a written document addressing alcohol, substance abuse and other behavioral health conditions?	4
Does the department have in writing how it complies with HIPAA?	4
Does the department keep health records separate from other personnel records?	4

Primary Level Prevention

Again, KFD has very similar policies and procedures to WFR. The differences between the two departments in the primary prevention category are the mindfulness activities and coping strategies offered through the Deer Oaks EAP and the mandatory background check. The background check is not in any way a mental health background check. According to KFD's SOP the background check encompasses criminal history, driving record, and past drug usage.

Table 4.11 Kyle Fire Department Primary Level Prevention	
Category	Rating
Buy-in	0
Supportive vs. punitive	0
Key words indicating buy-in	2
Leadership is supportive	0
Confidentiality is imperative	3
Resiliency training provided	0
Mindfulness activities and coping strategies	2
Leadership training suicide awareness	0
Leadership training in high-risk suicide candidates	0
Leadership is champion of the program	0
Emotional screening tool utilized for leadership promotion	0
Key leadership traits are identified	0

Personality inventory or mental health screening for recruits	0
Recruits required to pass mental health exam	0
Recruits are required to pass a background check	1
Recruits are required to attend suicide training	0
Department has strong recruit training program	0

Secondary Level Prevention

Again, KFD resembles WFR in their secondary level prevention strategies. The one exception is the zero-tolerance policy. KFD clearly states that the department has a "zero-tolerance" policy related to drug and alcohol use.

"Hays County Emergency Services District No. 5 intends to provide a safe, drug- and alcohol-free environment and to promote the health, well-being, and productivity of its members by taking all appropriate actions to maintain such an environment. The District practices "zero tolerance" to maintain a drug- and alcohol- free environment. The District firmly states that illegal activities will not be tolerated and will be dealt with to the full extent of the law."
Excerpt from KFD SOP 100-11

Table 4.12 Kyle Fire Department Secondary Level Prevention	
Category	Rating
Suicide awareness training provided	0
Suicide prevention team in place	0
Train the trainer program	0
Mandatory suicide awareness seminar/training	0
Mandatory training for officers	0
Continuing education component present	0
Gatekeeper training provided	0
Surveillance procedures in place	0
Crisis intervention team	0
Peer Support team	0
Alcohol and drug abuse program that discourages drinking/drug use as a coping mechanism	0
Zero-tolerance policy for drug and alcohol use while on duty	4

Tertiary Level Prevention

There is no evidence within the documents provided that KFD has any tertiary level prevention strategies in place. The department received zeros in every category and subcategory. KFD failed to meet the ideal model for a suicide prevention program, with the exception of the following components: management, confidentiality, and zero-tolerance alcohol and drug abuse policy.

Table 4.13 Kyle Fire Department Tertiary Level Prevention	
Category	Rating
Department uses CISD	0
Suicide intervention skills training offered	0
Annual mental health checkups required	0
Mental health exercises prescribed	0
Mental health managers utilized	0
Trend monitoring practiced	0
Standard of care review in place	0
Postvention services SOP	0

Hays County ESD #6 North Hays County Fire & Rescue

North Hays County Fire and Rescue (NHCFR) provided the department's SOP for wellness along with copies of excerpts from a training manual the department uses for wellness training. The coding sheet was completed based upon these two documents and results are outlined below. Charts were developed for each of the categories for the ideal model of a suicide prevention program. The data was scored based upon the rating system developed in Chapter 3 pg. 49. NHCFR could receive a score from 0 to 4 with 0 being no documentation in place and 4 being the documents exceed standards as defined by the ideal model.

Management Component

NHCFR failed to meet all of the requirements for the management component of an ideal suicide prevention program. The document provided did not contain any information that

addressed alcohol, substance abuse, or other behavioral health conditions. Additionally, the remaining items within the management component are almost identical to WFR and KFD.

Table 4.14 North Hays County Fire & Rescue Management Component	
Category	Rating
Is there a written program for assessment?	4
Is there a written SOP that address fitness and wellness?	3
Is there a written document addressing alcohol, substance abuse and other behavioral health conditions?	0
Does the department have in writing how it complies with HIPAA?	4
Does the department keep health records separate from other personnel records?	3

Primary Level Prevention

NHCFR has some primary level prevention strategies in place mainly through the use of the training manual. The training manual indicates that the department trains firefighters in resiliency strategies such as avoiding burnout, positive aspect focus, and relaxation exercises. Further strengths of NHCFR's primary level prevention strategies include emphasis of leadership traits that promote a successful suicide intervention program. These traits include good communication skills both written and verbal. This department is also the only one that indicates that they have any training for recruits.

Table 4.15 North Hays County Fire & Rescue Primary Level Prevention	
Category	Rating
Buy-in	1
Supportive vs. punitive	0
Key words indicating buy-in	1
Leadership is supportive	0
Confidentiality is imperative	4
Resiliency training provided	3
Mindfulness activities and coping strategies	3
Leadership training suicide awareness	1
Leadership training in high-risk suicide candidates	1

Leadership is champion of the program	0
Emotional screening tool utilized for leadership promotion	0
Key leadership traits are identified	2
Personality inventory or mental health screening for recruits	0
Recruits required to pass mental health exam	0
Recruits are required to pass a background check	0
Recruits are required to attend suicide training	0
Department has recruit training program	2

Secondary Level Prevention

NHCFR met the minimum standard for continuing education by addressing the issue in the training manual. NHCFR is the only department to include gatekeeper training and surveillance procedures in the provided documents. These areas fall below the minimum standard for a successful suicide prevention program and should be developed further. This was accomplished by emphasizing that the department would make every effort to direct firefighters to appropriate health care professionals and mentioning briefly how leadership could identify signs of distress in firefighters. Finally, NHCFR exceeded standards in one area, the crisis intervention team. NHCFR calls this portion of the department the critical incident stress debriefing (CISD) team. The CISD team consists of emergency services personnel, health-care professionals, and clergy that are trained in dealing with critical incident stress. This team functions both in this capacity and as the CISD in the tertiary level prevention component to be discussed in the next section.

Table 4.16 North Hays County Fire & Rescue Secondary Level Prevention	
Category	Rating
Suicide awareness training provided	0
Suicide prevention team in place	0
Train the trainer program	0
Mandatory suicide awareness seminar/training	0
Mandatory training for officers	0

Continuing education component present	3
Gatekeeper training provided	2
Surveillance procedures in place	2
Crisis intervention team	4
Peer Support team	0
Alcohol and drug abuse program that discourages drinking/drug use as a coping mechanism	0
Zero-tolerance policy for drug and alcohol use while on duty	0

Tertiary Level Prevention

There is no evidence within the documents provided that NHCFR has any tertiary level prevention strategies in place except for the critical incident management team mentioned previously. The department received zeros in every other category and subcategory. NHCFR failed to meet the ideal model for a suicide prevention program, with the exception of the following components: management component, resiliency training, mindfulness activities, continuing education, and CISD.

Table 4.17 North Hays County Fire & Rescue Tertiary Level Prevention	
Category	Rating
Department uses CISD	4
Suicide intervention skills training offered	0
Annual mental health checkups required	0
Mental health exercises prescribed	0
Mental health managers utilized	0
Trend monitoring practiced	0
Standard of care review in place	0
Postvention services SOP	0

Hays County ESD #8 Buda Fire Department and EMS

Buda Fire & EMS (BFDEMS) provided only one document, Buda Fire Support Team Policy manual. The coding sheet was completed based solely on this document and results are outlined below. Charts were developed for each of the categories for the ideal model of a suicide prevention program. The data was scored based upon the rating system developed in Chapter 3

pg. 49. BFD could receive a score from 0 to 4 with 0 being no documentation in place and 4 being the documents exceed standards as defined by the ideal model.

Management Component

The Texas Commission on Fire Protection (TCFP) has a minimum requirement for each department, and it can be assumed that, despite lack of documents provided, BFDEMS must have documents regarding the management component in place to meet the TCFP requirements. While taking this into consideration, based on the documents provided, BFDEMS failed to meet the management component of the ideal suicide prevention program. The only areas that is addressed is confidentiality and the storage of employee records.

Table 4.18 Buda Fire Department and EMS Management Component	
Category	Rating
Is there a written program for assessment?	0
Is there a written SOP that address fitness and wellness?	0
Is there a written document addressing alcohol, substance abuse and other behavioral health conditions?	0
Does the department have in writing how it complies with HIPAA?	4
Does the department keep health records separate from other personnel records?	4

Primary Level Prevention

BFDEMS has a considerable number of the components at the primary prevention level. The areas that BFDEMS Peer Support program addresses are buy-in, a supportive program, confidentiality, mindfulness, leadership training, and leadership traits.

Table 4.19 Buda Fire Department and EMS Primary Level Prevention	
Category	Rating
Buy-in	3
Supportive vs. punitive	3
Key words indicating buy-in	3
Leadership is supportive	0
Confidentiality is imperative	4

Resiliency training provided	0
Mindfulness activities and coping strategies	3
Leadership training suicide awareness	3
Leadership training in high-risk suicide candidates	3
Leadership is champion of the program	0
Emotional screening tool utilized for leadership promotion	0
Key leadership traits are identified	2
Personality inventory or mental health screening for recruits	0
Recruits required to pass mental health exam	0
Recruits are required to pass a background check	0
Recruits are required to attend suicide training	0
Department has recruit training program	0

Secondary Level Prevention

This is the one area that BFDEMS exceeds all other departments within the case study. With the development of the Peer Support Program BFDEMS has met or exceeded the requirements for successful secondary level prevention in a suicide prevention program. These areas include the continuing education component, gatekeeper training, surveillance procedures, and the crisis intervention team and peer support team. In BFDEMS the peer support team functions as both peer support and crisis intervention.

Table 4.20 Buda Fire Department and EMS Secondary Level Prevention	
Category	Rating
Suicide awareness training provided	0
Suicide prevention team in place	0
Train the trainer program	0
Mandatory suicide awareness seminar/training	0
Mandatory training for officers	0
Continuing education component present	3
Gatekeeper training provided	4
Surveillance procedures in place	3
Crisis intervention team	4
Peer Support team	4

Alcohol and drug abuse program that discourages drinking/drug use as a coping mechanism	0
Zero-tolerance policy for drug and alcohol use while on duty	0

Tertiary Level Prevention

BFDEMS fails in almost every subcategory within tertiary level prevention; the exceptions are use of crisis incident stress debriefing and the use of two postvention strategies. The two postvention strategies are notification procedures for critical incidents and department response. Though these are not included in a separate SOP it is important to realize that these resources are available to the department.

Table 4.21 Buda Fire Department and EMS Tertiary Level Prevention	
Category	Rating
Department uses CISD	3
Suicide intervention skills training offered	0
Annual mental health checkups required	0
Mental health exercises prescribed	0
Mental health managers utilized	0
Trend monitoring practiced	0
Standard of care review in place	0
Postvention services SOP	2

Chapter Summary

The South Hays Fire Department (SHFD) documents presented the most extensive information regarding behavioral health. SHFD has a specific policy regarding Member Assistant Programs that covers behavioral health and alcohol and drug use in depth. Also of note, is the way in which the fire departments address the confidentiality of member records. South Hays Fire & Rescue (SHFR), Kyle Fire Rescue (KFR), Buda Fire Department & EMS (BFDEMS), and North Hays County Fire & Rescue (NHCFR) all use an outside source to provide behavioral health benefits, such as an employee assistance program (EAP) or staff

psychologist. This ensures that the health records of members are kept separate from other personnel records. In fact, these records are kept off-site and are unable to be identified by anyone but the employees of the EAP or counseling office.

After reviewing the submitted documents from each fire department it was determined that only South Hays Fire Department and Buda Fire Department & EMS have met the criteria for primary level prevention strategies. The programs that are in place appear to be supportive versus punitive and confidentiality is highlighted as a major component of all programs. The most robust portion of primary level prevention was in the subcategory of reducing stigma. The remainder of the components of a primary level prevention program were either not presented for review by the department or the department does not have those documents.

Hays County fire departments fall below standards in establishing secondary level prevention strategies. Only one department, South Hays Fire Department, provides suicide awareness training. The use of mindfulness activities and resiliency training is also provided by South Hays Fire Department, Kyle Fire Department, and Buda Fire Department & EMS. These resources are available using Member Assistance Programs (MAP) or Employee Assistance Programs (EAP) or a staff psychologist, respectively. These three departments have contracted out the components of the suicide prevention program.

The final component, tertiary level prevention, is the weakest component of all Hays County Fire departments. There is no evidence to support the use of training for officers or members in suicide awareness. Buda Fire Department & EMS stands out in the evaluation by providing a Peer Support Team. The Peer Support Team is an outsourced component that clearly outlines how the department facilitates support to members and the guidelines for helping members of the department that are facing crisis situations.

Results show that Hays County ESD fire departments are deficient in the majority of categories of an ideal suicide prevention program. The summary table, Table 4.22 highlights the categories and subcategories and each departments ranking for that item summarized from 'exceeds criteria' to 'minimum standard met'. The exceptions are South Hays Fire Department's secondary level prevention strategies and Buda Fire Department & EMS' use of a Peer Support program. Note that any department that scored a zero in a category or subcategory was not included in this summary table. Implications of these findings are discussed in Chapter 5.

Table 4.22 Summary of Findings

Category	**Department(s)**	**Rating**
Management Component	SHFD	Exceeds standards
	WFR, KFD	Meets criteria
	NHCFR	Below average
	BFDEMS	Minimum
Primary Level Prevention	Department(s)	Rating
Creating buy-in	SHFD	Exceed standards
	NHCFR	Below average
Supportive vs. punitive	SHFD, BFDEMS	Meets criteria
Confidentiality	SHFD, WFR, NHCFR, BFDEMS	Exceed standards
	KFD	Meets criteria
Resiliency training	NHCFR	Meets criteria
	SHFD	Minimum
Mindfulness activities	SHFD, NHCFR, BFDEMS	Meets criteria
	KFD	Below average
Leadership training	BFDEMS	Meets criteria
	KFD	Minimum
Leadership training in high-risk suicide candidates	BFDEMS	Meets criteria
	NHFR	Minimum
Key leadership traits identified	SHFD, NHCFR, BFDEMS	Below average
Recruit background check	KFD	Minimum
Recruit training program	NHCFR	Below average
Secondary Level Prevention	Department(s)	Rating
Suicide awareness training provided	SHFD	Below average

Continuing education	NHCFR, BFDEMS	Meets criteria
Gatekeeper training	NHCFR	Below average
	BFDEMS	Exceeds standards
Surveillance procedures	SHFD	Minimum
	NHCFR	Below average
	BFDEMS	Meets criteria
Crisis Intervention Team	NHCFR, BFDEMS	Exceeds standards
Peer Support Team	BFDEMS	Exceeds standards
Zero-tolerance policy	KFD	Exceeds standards
Tertiary Level Prevention	Department(s)	Rating
Department uses CISD	NHCFR	Exceeds standards
	BFDEMS	Meets criteria
Suicide intervention skills offered	SHFD	Below average
Postvention services SOP	BFDEMS	Below average

Chapter 5 Conclusion

Through this case study of Hays County ESD TCFP certified fire departments an attempt was made to provide an ideal model for suicide prevention programs in the fire service and ascertain if the five Hays County ESD fire departments met the ideal model. Chapter 1, "Introduction" provided the research purpose and object of the case study. Chapter 2, "Literature Review" established, through the use of scholarly literature, the components of an ideal model suicide prevention program, resulting in the conceptual framework which was used to develop the operationalization table in Chapter 3, "Methodology".

Chapter 3 also specified the data collection method and coding sheet that were used in the case study. Chapter 4, "Results" presented the results of the case study. The coding sheets were used to determine if Hays County ESD fire departments met the standard for a suicide prevention program. Results indicated that Hays County fire departments fall short of the ideal model in nearly all categories. This chapter will provide important findings of this research, offer recommendations, discuss limitations of this research, and provide suggestions for future lines of inquiry.

Important Findings

Overall, the fire departments within Hays County failed to meet the standards for an ideal suicide prevention program as defined by the framework developed. The shortcomings that need to be addressed by Wimberley Fire Rescue (WFR) and Kyle Fire Department (KFD) include more in-depth mental health resources and greater attention paid to the mental health component of the wellness SOP. It seems wise to strengthen this portion of the SOP with collaboration with South Hays Fire Department (SHFD). This could add the in-depth language of the SHFD SOP to the documents WFR and KFD have in place.

Further efforts on the part of WFR and KFD should include building training programs for resiliency, creating buy-in through leadership support and making it clear that the program is supportive and not punitive. For the safety of the firefighters these two areas must be addressed.

Hays County fire departments also need to strengthen or add a background check and meet the criteria for an ideal suicide prevention program. The background check should include mental health components including a mental health evaluation by a mental health professional. A major strength found in the document analysis was KFD's zero-tolerance policy on alcohol and drug abuse. Other departments would do well to take the same action and include a zero-tolerance policy within their department's SOPs.

Finally, SHFR and BFDEMS have strong programs in the areas of Mental Health recommendations and Peer Support Programs. Other departments could take these suggestions and collaborate and expand upon the work of these two departments to build an ideal suicide prevention program.

The overall strengths of Hays County ESD fire departments include:

- Each has a written program of assessment
- The inclusion of an SOP that addresses wellness and fitness
- Addressing alcohol, substance abuse and other behavioral health conditions, including a zero-tolerance policy
- HIPAA compliance and keeping health records separate from other personnel records
- Presence of a crisis intervention team and/or peer support team

Areas that need to be addressed, expanded, or added to the suicide prevention program include:

- Creating buy-in
- Specifying that the program is supported by the department and specifically by leadership
- Providing resiliency training
- Developing mindfulness activities and coping strategies
- Leadership training in suicide awareness and high-risk suicide candidates
- Developing champions of the suicide prevention program
- Using an emotional screening tool for leadership promotion
- Identifying key leadership traits
- Requiring a mental health screening for recruits
- Requiring recruits to attend suicide prevention training
- Provide suicide awareness training to entire department
- Develop a suicide prevention team
- Institute a train the trainer program
- Institute a mandatory suicide awareness seminar or training
- Require training for officers
- Enforce continuing education in suicide awareness and prevention
- Provide gatekeeper training
- Implement surveillance procedures
- Offer suicide intervention skills training
- Require annual mental health checkups
- Prescribe mental health exercises for fire fighters

- Utilize mental health managers to lessen the effects of stress and depression
- Practice trend monitoring
- Have a standard of care review in place
- Develop a postvention services SOP

Limitations

This study has two primary limitations: the first being researcher bias. Since the researcher was the sole reviewer of the documents within this study bias could have entered in. Had another person been recruited to evaluate the documents' inter-rater reliability may have been more effectively addressed. Additionally, the researcher was a former employee of Wimberley Fire Rescue, and though every effort was made to prevent bias, there is still the possibility that it exists in this research paper. Secondly, relying solely on document analysis limited the findings. It was a calculated risk based upon the seriousness of the topic. Due to the sensitive nature of suicide, and the possibility of triggering individuals it was determined that document analysis was the safest means of study. However, the use of surveys and interview could have provided additional information to the state of Hays County fire departments suicide intervention and prevention programs.

Future Lines of Inquiry

An ideal suicide prevention program for the fire service is multi-faceted and requires a holistic approach. Hays County ESD fire departments should take advantage of shared resources and collaborate to develop an ideal suicide intervention and prevention program. By using multiple departments to form one program it allows for broader perspectives and reduced bias. It would also provide more gatekeepers to watch out for signs of firefighters in distress. The need for awareness and intervention is crucial for the brotherhood of firefighters. Future research

could test the validity of the model program in another case study for a different department or expand the case study of Hays County to include interview and survey components if the researcher could find a way to complete this safely.

Chapter Summary

This chapter presents a summary of the findings of the document analysis and an overview of the strengths and weaknesses that each fire department has. The limitations of the study and thoughts on future lines of inquiry are also addressed. The research shows that Hays County fire departments have much work to do in developing an ideal model suicide prevention program. It is recommended that the departments of Hays County work together to form a suicide prevention program that meets or exceeds the ideal model suicide prevention program presented in this paper.

Appendix A

Suicide Prevention Helplines

Suicide Prevention Helplines

Safe Call Now: 877-230-6060

Share the Load: 1-888-731-3473

National Suicide Prevention Lifeline: 800-273-8255 (chat option also available)
*a three-digit suicide prevention hotline, 988, has been stablished by the FCC but is not operating as of this writing.

Veterans Crisis Line: 800-273-8255 option 1 or text: 838255

Appendix B
Coding Sheet

Coding Sheet

AN IDEAL MODEL FOR SUICIDE PREVENTION PROGRAMS IN THE FIRE SERIVCE

DATE:

DEPARTMENT/ESD:

Category	**Evidence of Compliance/Non-Compliance**	**Document Title and Location of Evidence**
1.1 Is there a written program for assessment?	YES NO	
1.2 Is there a written SOP that addresses wellness and fitness?	YES NO	
1.3 Is there a written alcohol, substance abuse and other behavioral health conditions?	YES NO	
1.4a Does the department have in writing how it complies with HIPAA?	YES NO	
1.5b. Does the department keep health records separate from other personnel records?	YES NO	
2.1a Does the department create buy-in?	YES NO	
2.1b Is the program that is in place supportive vs. punitive?	YES NO	
2.1c Key words that indicate department is creating buy-in	engagement acceptance workplace wellness confidentiality no reprisal interest reduced stigma supportive	
2.1d. Is it clearly stated that leadership is supportive?	YES NO	
2.1e. Is it clearly stated that confidentiality is imperative?	YES NO	
2.2a Does the department provide resiliency training?	YES NO	
2.2b Does the department offer mindfulness activities and coping strategies?	*Circle all that apply:* Talking to someone Journaling; either Individually or group Exercise Positive aspect focus Relaxation exercises	

	Deep breathing Yoga Progressive muscle relaxation Social Support Other:	
2.3a Is leadership trained in suicide awareness?	YES NO	
2.3b Is leadership trained in identifying high risk suicide candidates?	YES NO	
2.3c Is leadership a champion of the program?	YES NO	
2.3d Is an emotional screening tool utilized in promotion to leadership positions?	YES NO	
2.3e Key traits necessary for the leadership team are identified.	Strong listening skills Trustworthy Supportive Empathetic Leading by example Open communication Consistent Willingness to learn Other:	
2.4a. Is a personality inventory and/or mental health screening given to recruits at onboarding?	YES NO	
2.4b. Are recruits required to pass a mental health exam?	YES NO	
2.4c. Are recruits required to pass a background check?	YES NO	
2.4d. Are recruits required to attend suicide training during onboarding?	YES NO	
2.4e. Keywords that indicate department has a strong recruit training program.	Suicide awareness Stress awareness Coping mechanisms Written list of resources Mock exercises Trust building activities Encourage openness	
3.1a Does the department provide suicide awareness training?	YES NO	
3.1b Is there a suicide prevention team in place?	YES NO	

3.1c Is there a train the trainer program?	YES NO	
3.1d Is there a mandatory suicide awareness seminar/training in place?	YES NO	
3.1e Does the department provide separate mandatory training for officers?	YES NO	
3.1f. Is there a continuing education component to the program?	YES NO	
3.2a. Is gatekeeper training provided?	YES NO	
3.2b Key terms indicating effective gatekeeper training.	Identifying at risk persons Ability to direct to correct health care professional	
3.3a Are Surveillance Procedures in place?	YES NO	
3.3b. Which surveillance procedures are utilized?	Risk factors Open discussion Referral procedures List of community resources	
3.4a Does the department have a crisis intervention team?	YES NO	
3.4b. Members of crisis intervention team.	Staff psychologist Assistant Chief Member Advocate Family Assistance Coordinator Chaplain Two Union Reps Other:	
3.4c. Does the crisis intervention team have periodic reviews of successes and failures?	YES NO	
3.5 Is there a peer support team in place?	YES NO	
3.6a. Does the department have an alcohol and drug abuse program in place that discourages drinking/drug use as a coping mechanism?	YES NO	
3.6b. Is there a zero-tolerance policy for drug and alcohol use while on duty?	YES NO	
4.a. Does the department use CISD?	YES NO	

4.1a. Does the department offer suicide intervention skills training?	YES NO	
4.1b. Evidence of an effective intervention skills training program.	Pre-planned responses Evaluation by mental health professional or chaplain Availability of a treatment facility Support to members in the event a member commits suicide	
4.2a Are annual mental health checkups a requirement?	YES NO	
4.2b Are members prescribed mental health “exercises”?	YES NO	
4.2c Are members in distress assigned a mental health manager?	YES NO	
4.3a. Does the department practice trend monitoring?	YES NO	
4.3b. Does the department have a standard of care review in place?	YES NO	
4.3c. Key terms that indicate a well-developed postvention services SOP.	Notification procedures Department response Protocol for suicides on and off station grounds Family response Firefighter response Planned discussions	

References

About (n.d.) Buda Fire. Retrieved September 6, 2020 from https://www.budafire.org/about/

Albiges, M. (2018, March 22). *Hays County ranked 4th fastest-growing county in the country.* Community Impact Newspaper. https://communityimpact.com/san-marcos-buda-kyle/city-county/2018/03/22/hays-county-ranked-4th-fastest-growing-county-country/

Australian Defence Force. (n.d.). *Australian Defence Force Suicide Prevention Program (ADF SPP).* Retrieved April 14, 2020. https://www.defence.gov.au/Health/DMH/SuicidePreventionProgram.asp

Bagley, S., Munjas, B., & Shekelle, P. (2010). A Systematic Review of Suicide Prevention Programs for Military or Veterans. *Suicide and Life Threating Behavior,* 40(3), 257-265.

Beaton, R., Murphy, S., Pike, K., Corneil, W. (1997). Social Support and Network Conflict in Firefighters and Paramedics. *Western Journal of Nursing.* 19(3), 297-unknown.

Bellon, S. (2017). *Flourishing Firefighters: A plan for optimal organizational deviance using healthy human systems* [Doctoral dissertation, Western University]. 18. http://ir.lib.uwo.ca/oip/18

Bodin, M. (2017, June 29). Volunteer Fire Departments Are Struggling to Retain Firefighters, while 911 Calls Are Surging. *Emergency Management.* https://www.govtech.com/em/disaster/EM-Summer-2017-Dwindling-Force.html

Boffa, J.W., Stanley, I.H., Horn, M.A., Norr, A.M., Joiner, T.E., Schmidt, N.B. (2016). PTSD Symptoms and Suicidal Thoughts Among Firefighters. *Journal of Psychiatric Research,* 84, 277-283.

Bowen, Glenn A. (2009). Document Analysis as a Qualitative Research Method. Qualitative Research Journal, 9(2), 27-40. DOI 10.3316/QRJ902027

Byrne Family (n.d.). *Matthew E. Byrne* [Photograph]. Bowdoin Magazine. https://obituaries.bowdoin.edu/matthew-e-byrne-02/

Carlisle, C. F., & Brook, M. (1999). *The role of occupational stress in the contemporary fire service: psychological stress, its causation, identification, treatment, reduction, and resolution*. [Research Paper, National Fire Academy].

Carpenter, G. S. J., Carpenter, T. P., Kimbrel, N. A., Flynn, E. J., Pennington, M. L., Cammarata, C., Zimering, R.T., Kamholz, B.W. & Gulliver, S. B. (2015). Social support, stress, and suicidal ideation in professional firefighters. *American journal of health behavior*, 39(2), 191-196.

Cecconello, R., Baseggio, D., Cecconello, W., & Rissi, V. (2014). Work Organization, Mental Health and Coping among Firefighters: The Brazilian Context. *International Journal of Applied Psychology*, 4(5), 181-187.

Chen, Y.-C., Chen, M.-C., Chou, F. H.-C., Sun, F.-C., Chen, P.-C., Tsai, K.-Y., & Chao, S.-S. (2007). The relationship between quality of life and posttraumatic stress disorder or major depression for firefighters in Kaohsiung, Taiwan. *Quality of life research*, 16(8), 1289-1297.

Combs, P. (2016) *Seeking Help is Not a Sign of Weakness.* [Poster]. Fire Engineering. https://www.fireengineering.com/2016/12/02/222915/firefighter-ptsd-and-suicide/#gref

Commentary on Case Studies (n.d.) Retrieved from: https://writing.colostate.edu/guides/page.cfm?pageid=1300&guideid=60

Damien, C. E. (2019). Firefighters' *Perception of Leadership Behaviors on Their Psychological Well-being: A Case Study.* [Doctoral Dissertation, Concordia University-Portland].

Davis, K. (2005). *The development of an educational program that teaches fire fighters stress management*: Doctoral Thesis. The Chicago School of Professional Psychology.

De Clerck, T., Willem, A., Aelterman, N., & Haerens, L. (2019). Volunteers Managing Volunteers: The Role of Volunteer Board Members' Motivating and Demotivating Style in Relation to Volunteers' Motives to Stay Volunteer. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 1-14.

Dedic, G.J., Panic, M. (2007) Suicide Prevention Program in the Army of Serbia and Montenegro. *Military Medicine,* 172(5), 551-555.

Dictionary.com https://www.dictionary.com/browse/coping-mechanism

Dill, J. (n.d.). *Firefighter and EMS Suicide Deaths by Year*. Firefighter Behavioral Health Alliance. Retrieved April 8, 2020. https://www.ffbha.org/ff-ems-suicide-deaths-by-year-type/

Ellis, B. (2019). *Creating a Culture of Courage: A Behavioral Health Study of Resilience and Response to Traumatic Events for Firefighters.* [Doctoral Dissertation, Concordia University, Portland]. https://commons.cu-portland.edu/edudissertations/304

Evarts, B., Stein, G. (2020) *U.S. Fire Department Profile - 2018.* National Fire Protection Association.

Everly, G.S. Jr., Flannery, R.B. Jr., & Mitchell, J.T. (2000). Critical incident stress management (Cism): A review of the literature. *Aggression and Violent Behavior*, 5(1), 23-40. https://doi.org/10.1016/S1359-1789(98)00026-3

Fahy, R. F., & Molis, J. L. (2019). *Firefighter Fatalities in the US-2018*: NFPA.

Fay, J., Kamena, M., Benner, A., & Buscho, A. (2006). A residential milieu treatment approach for first-responder trauma. *Traumatology*, 12(3), 255-262.

Finney, E.J., Buser, S.J., Schwartz, J., Archibald, L., Swanson, R. (2015). Suicide prevention in fire service: The Houston Fire Department (HFD) model. *Aggression and Violent Behavior,* 21, 1-4. http://dx.doi.org/10.1016/j.avb.2014.12.012

Fire Service Joint Labor Management Wellness-Fitness Initiative (2006). §435.21, Title 37 of the Texas Administrative Code. https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=37&pt=13&ch=435&rl=21

Fisher, P., & Etches, B. (2003). *A comprehensive approach to workplace stress & trauma in firefighting: A review document prepared for the International Association of Firefighters 17th Redmond Symposium.* Paper presented at the 17th Redmond Symposium, San Francisco, CA.

Gist, R., Taylor, V.H., Raak, S. (2011). *Suicide Surveillance, Prevention, and Intervention Measures for the US Fire Service: Findings and Recommendations for the Suicide and Depression Summit.* [White Paper. Baltimore, Maryland]

Google. (n.d.) *NVFC Share the Load Suicide Helpline.* Image. Retrieved April 24, 2020. https://www.aspire-counseling.org/client-resources

Gulliver, S.B., Pennington, M.L., Leto, F., Cammarata, C., Ostiguy, W., Zavodny, C., Flynn, E.J., Kimbrel, N.A. (2016). In the wake of suicide: Developing guidelines for suicide postvention in fire service. *Death Studies,* 40(2), 121-128.

Hackett, D. P., & Violanti, J. M. (2003). *Police suicide: Tactics for prevention*. Charles C Thomas Publisher.

Harrington, J. (2017). *Barriers to implementation of workplace wellness programs in career fire service organizations: an exploratory qualitative study*. [Doctoral Dissertation. Creighton University.]

Hays County Texas. (2018). *Hays County Emergency Services Districts. [Map].* ESD Map. https://hayscountytx.com/wpfb-file/esd-map-pdf/

Hays County ESD #3 Map (2008). South Hays Fire. Retrieved September 6, 2020 from https://www.southhaysfire.com/files/9013/6156/1396/Hays_County_ESD_3_Map.pdf

Hays County Ranks Second Fastest-Growing County This Decade. (2020, April 2). Corridor News. https://smcorridornews.com/hays-county-ranks-2-as-fastest-growing-county-this-decade/

Heitman, S.C. (2016). *Suicide in the fire service: saving the lives of firefighters.* [Masters Thesis. Naval Postgraduate School, Monterey, CA.]

Henderson, S. N., Van Hasselt, V. B., LeDuc, T. J., & Couwels, J. (2016). Firefighter suicide: Understanding cultural challenges for mental health professionals. *Professional Psychology: Research and Practice,* 47(3), 224-230.

Henly Volunteer Fire Department BBQ: Annual Fundraiser on June 3, supports Firefighters and EMT's (2017, May) Retrieved from: http://www.cityofdrippingsprings.com/page/article/62

HHS.gov (n.d.). *Summary of the HIPAA Privacy Rule.* U.S. Department of Health & Human Services. Retrieved April 21, 2020. https://www.hhs.gov/hipaa/for-professionals/privacy/laws-regulations/index.html

Hofstra, E., van Nieuwenhuizen, C., Bakker, M., Ozgul, F., Elfeddali, I., de John, S.J., van der Feltz-Cornelis, C.M. (2018). Effectiveness of suicide prevention interventions: A systematic review and meta-analysis. *General Hospital Psychiatry*, 1-14. https://doi-org.libproxy.txstate.edu/10.1016/j.genhosppsych.2019.04.011

Houston Fire Department (n.d.) *Suicide Prevention and Awareness Pamphlet.* Retrieved on February 2, 2020. https://www.houstontx.gov/fire/firefighterinfo/mentalhealth.html

International Association of Firefighters. (2008). *The Fire Service Joint Labor Management Wellness-Fitness Initiative* (Fourth Edition ed.).

Issac, G. (2012). *Extinguishing Stigma: An Examination of Firefighter Stress, Social Supports, and Attitudes towards Psychological Help for Behavioral Health.* [Master's Thesis, University of British Columbia.]

James L., Kowalski T. (1996). Suicide prevention in an army infantry division: A multi-disciplinary program. *Mil Med* 161, 97–101.

Jahnke, S.A., Poston, W.S., Haddock, C.K. (2014). Perceptions of Alcohol use among US Firefighters. *Journal of Substance Abuse & Alcoholism,* 2(2), 1012-1019.

Johnson, M.T. (2019, Mar 7). *'I got my life back': Four years into his recovery from PTSD, Frazee firefighter Scott Geiselhart spreads message of hope.* DL-Online. https://www.dl-online.com/lifestyle/4581044-i-got-my-life-back-four-years-his-recovery-ptsd-frazee-firefighter-scott

Johnson, M.T. (2019, Mar 7). *Scott Geiselhart with canine*. Photograph. DL-Online. https://www.dl-online.com/lifestyle/4581044-i-got-my-life-back-four-years-his-recovery-ptsd-frazee-firefighter-scott

Kilgannon, C. (2019, Sept. 11). *A Firefighter's Suicide and the Latent Toll of 9/11.* New York Today. https://www.nytimes.com/2019/09/11/nyregion/september-11-nyc-firefighter.html

Kim W, Bae M, Chang S., Yoon, J., Jeong, D., Hyun, D., Ryu, H, Park, K., Kim, M. & Kim, C. (2019). Effect of Burnout on Post-traumatic Stress Disorder Symptoms Among Firefighters in Korea: Data from the Firefighter Research on Enhancement of Safety & Health (FRESH). *Journal of Preventative Medical Public Health*, *52(6),* 345–354. DOI:10.3961/jpmph.19.116

Kimbrel, N.A., Pennington, M.L., Cammarata, C.M., Leto, F., Ostiguy, W.J., Gulliver, S.B. (2016). Is Cumulative Exposure to Suicide Attempts and Deaths a Risk Factor for Suicidal Behavior among Firefighters? A Preliminary Study. *Suicide Life Threat Behav,* 44(6), 669-677. doi:10.1111/sltb.12248

Knox, K.L., Litts, D.A., Talcott, G.W., Feig, J.C., Caine, E.D. (2003). Risk Of Suicide And Related Adverse Outcomes After Exposure To A Suicide Prevention Programme In The Us Air Force: Cohort Study. *British Medical Journal*, 327(7428), 1376-1378.

Kuehl, H., Mabry, L., Elliot, D.L., Kuehl, K.S., Favorite, K.C. (2013). Factors in Adoption of a Fire Department Wellness Program Champ-and-Chief Model. *Journal of Occupational and Environmental Medicine*, 55(4), 424-429. https://doi.org/10.1097/JOM.0b013e31827dba3f

Kureczka, A.W. (1996). Critical Incident Stress in Law Enforcement. *FBI Law Enforcement Bulletin,* 64(2/3), 10-17.

LaMontagne, A.D., Martin, A., Page, K.M., Reavley, N.J., Noblet, A.J., Milner, A.J., Keegel, T., Smith, P.M. (2014). Workplace mental health: developing an integrated intervention approach. *BMC Psychiatry*, 14, 131-154. https://doi.org/10.1186/1471-244X-14-131

Longley, B. (2015, March). *Legal Q&A*. TML Legislative Counsel. [informational document] https://www.tml.org/DocumentCenter/View/195/Emergency-Services-Districts---2015-03-PDF

Martin, C.E., Tran, J.K., Buser, S.J. (2017). Correlates of suicidality in firefighter/EMS personnel. *Journal of Affective Disorders. 208,* 177-183. http://dx.doi.org/10.1016/j.jad.2016.08.078

Merriam-Webster https://www.merriam-webster.com/dictionary/resiliency

Milner, A., Witt, K., Maheen, H., LaMontagne, A.D. (2016). Suicide among emergency and protective service workers: A retrospective mortality study in Australia, 2001 to 2012. *Work*, *57(2),* 281-287. http://dx.doi.org.libproxy.txstate.edu/10.3233/WOR-172554

Mishara, B., Martin, N. (2012). Effects of a Comprehensive Police Suicide Prevention Program. *Crisis,* 33(3): 162-168. DOI: 10.1027/0227-5910/a000125

National Fire Protection Association. (2018). *Standard on Fire Department Occupational Safety, Health, and Wellness Program* (NFPA 1500). Quincy, MA.

Newland, C, Barber, E., Rose, M., Young, A. (2015, October). Survey reveals alarming rates of EMS provider stress & thoughts of suicide. *Journal of Emergency Medical Services*, 10(40), 30-34.

Osby, L. (2019, April 19). *Strong, brave and traumatized: Upstate SC first responders often haunted by what they see.* Greensville News. https://www.greenvilleonline.com/story/news/2019/04/01/ems-suicides-repeated-trauma-often-haunts-sc-first-responders/3094200002/

Powers, K. (2019, Sept. 23). *Firefighters are heroes, but who's watching out for them when it comes to suicide?* The Daily Times. https://www.delmarvanow.com/story/life/2019/09/23/firefighter-suicide-mental-health-culture-maryland-delaware-virginia-salisbury/1300515001/

Regehr, C., Hill, J., Goldberg, G., Hughes, J. (2003) Postmortem Inquiries and Trauma Responses in Paramedics and Firefighters. *Journal of Interpersonal Violence,* 18(6), 607-622. DOI: 10.1177/0886260503251131

Regulating and Assisting Fire Fighters and Fire Departments, Tex Stat. § 419.021(1987 & rev. 2001) https://statutes.capitol.texas.gov/Docs/GV/htm/GV.419.htm#419.021

Rozanov, V.A., Mokhovikov, A.N., Stiliha, R. (2002) Successful Model of Suicide Prevention in the Ukraine Military Environment. *Crisis,* 23(4), 171-177. DOI: 10.1027//0227-5910.23.4.171

Stoermer, N. (2019). Firefighter Suicides, Addressing the Concern. *Crisis, Stress, and Human Resilience: An International Journal, 1(2),* 106-125. ttps://creativecommons.org/licenses/by-nc-nd/4.0/legalcode

SWNS. (n.d.) Firefighters in a downward dog pose. [Digital Photograph] https://www.foxnews.com/health/colorado-woman-yoga-first-responders

Texas Commission on Fire Protection (TCFP) (n.d.) Fire Departments by Size [data set] https://www.tcfp.texas.gov/about/fire-departments-by-size

U.S. Census Bureau (2019). QuickFacts Buda City, Texas [data set] https://www.census.gov/quickfacts/budacitytexas

U.S. Census Bureau (2019). QuickFacts Dripping Springs City, Texas [data set] https://www.census.gov/quickfacts/drippingspringscitytexas

U.S. Census Bureau (2019). QuickFacts Hays County, Texas [data set]. Retrieved from https://www.census.gov/quickfacts/hayscountytexas

U.S. Census Bureau (2019). QuickFacts Kyle City, Texas [data set] https://www.census.gov/quickfacts/kylecitytexas

U.S. Fire Administration (2019). *Fiscal Year 2018 Report to Congress.* https://www.usfa.fema.gov/downloads/pdf/annual_report_fy18.pdf

Warner, C.H., Appenzeller, G.N., Parker, J.R., Warner, C., Diebold, C.J., Grieger, T. (2011). Suicide Prevention in a Deployed Military Unit. *Psychiatry,* 74(2), 127-141. http://dx.doi.org.libproxy.txstate.edu/10.1521/psyc.2011.74.2.127

Witt, K., Miler, A., Allisey, A., Davenport, L., LaMontagne, A.D. (2017). Effectiveness of Suicide Prevention Programs for Emergency and Protective Services Employees: A Systematic Review and Meta-Analysis. *American Journal of Industrial Medicine*, 60, 394-407. https://doi.org/10.1002/ajim.22676

World Health Organization. (2006). *Preventing Suicide: A Resource at Work*. (Preventing suicide: a resource series; 8). WHO Press, World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/43502/9241594381_eng.pdf?sequence=1&isAllowed=y

Yin, R. K. (2011). A brief refresher on the case study method. In R.K. Yin (Ed.). *Applications of case study research* (3rd edition, pg. 3-20). Thousand Oaks, California: Sage Publications