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Rural First Responders A Comprehensive Approach to Understanding Their Experiences

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Rural First Responders

A Comprehensive Approach to Understanding Their Experiences

by

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Abstract

First responders are chronically exposed to traumatic events throughout their career. First responders in rural communities have unique experiences that make them more susceptible to poor mental health outcomes. Some of these experiences include strong ties to the community, the chance of responding to someone known personally to them, limited resources, and limited training. Since rural communities make up a large part of the U.S., and first responders in these communities compromise about 70% of the first responders population, it is important for mental health providers to understand and provide services for these individuals. Utilizing research already conducted with paid first responders, the Banded Dissertation focuses on the experiences of the rural first responder. Three products compromise the Banded Dissertation. The first is a conceptual paper that explores the prevalence of mental health outcomes of first responders' exposure to traumatic events with a focus on volunteer fire fighters and EMT's in rural communities. The article provides innovative ways for mental health professionals to utilize rural cultural values and norms to address barriers this population has to receiving services. The second is a research study that explored the current state of first responders in rural communities amid a global pandemic. The third product is a conference presentation that describes a trauma-informed, culturally sensitive approach to working with rural volunteer first responders after a traumatic experience.

Keywords: first responder, rural volunteer first responder, COVID-19 pandemic, rural culture, trauma-informed care

Dedication/Acknowledgements

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Rural First Responders

A Comprehensive Approach to Understanding Their Experiences

First responders are exposed to traumatic events regularly through their work. They arrive at the early stages of an accident or crisis and are responsible for the protection and preservation of life and property (Prati & Pietrantoni, 2010). Between 60-90% of first responders have witnessed incidents with multiple casualties, 61-84% have seen the death of a child, and 46-84% have witnessed the death of a person that is in their care (Regambal et al., 2015). In the U.S. first responders such as fire fighters and emergency medical technicians (EMT's) make up 70% of the first responder population and serve in rural communities as volunteers. These volunteers have additional work obligations outside of their volunteer work and limited resources due to their rural locations. In addition, this population has recently had to take on the stressors of the COVID-19 pandemic. Experiences such as these could lead to poor mental health outcomes.

Research has been conducted on the impact of trauma on first responders. In the literature first responders fall into the categories of police, fire fighters, and EMT's/paramedics (Prati & Pietrantoni, 2010). These first responders are continuously exposed to life-threatening situations that have the potential for development of poor mental health outcomes. Post-Traumatic Stress Disorder (PTSD) has been prevalent among those in this line of work (Benedek et al., 2007; Bryant & Harvey, 1996; Kleim & Westphal, 2011; Milligan-Saville et al., 2018). The link between PTSD in first responders and suicide ideation is higher than in the general population (Stanley et al., 2015, Stanley et al., 2016). In addition to PTSD and suicide ideation, first responders also experience other mental health concerns—such as depression, drug and alcohol disorder, and other psychological disorders—that can impact their daily functioning (Kleim &

Westphal, 2011; Milligan-Saville et al., 2018; Stanley et al., 2016a). Although studies on volunteer first responders are limited, they have indicated that the rates of psychological disorders are higher in this population than in those who are paid, full-time first responders (Stanley et al., 2016a).

Volunteer first responders in the U.S. primarily serve in rural communities. According to the U.S census, rural communities are those that are outside of what are considered "urbanized areas" (50,000 people or more) and "urban clusters" (at least 2,500 with 1,000 people per square mile), leaving much of the U.S. considered to be rural (Ratcliffe et al., 2016). Many rural communities are not located near larger cities, resulting in limited resources and training. (Regambal, 2015). Access to resources and training can help volunteer first responders cope with traumatic situations. Volunteers also have other jobs and additional stressors such as extensive sense of duty, competency concerns, and knowing the patient which impact the trauma experiences (Folwell and Kauer, 2018). Volunteers in rural communities also adhere to cultural norms that may cause barriers to receiving help when dealing with the effects of traumatic experiences. Examples of these cultural norms include an emphasis on self-reliance, traditions, and resistance to change (Waltman, 2010). These are all circumstances that rural volunteer first responders typically face in their service to the fire department and their communities. The impact of the COVID-19 pandemic adds another layer of stressors that can lead to more negative mental health outcomes.

The discovery of the COVID-19 virus in 2019 has led to a pandemic felt on a global scale. Medical first responders have been in the groups of front-line workers of this pandemic. As we progress in dealing with this pandemic, studies are emerging on the mental health impact on front-line workers (Ehrlich, et al., 2020 & Lai et al., 2020). The studies have found that there

is an increase in fatigue, burnout, feeling overworked, limited resources, and high media coverage that can lead to higher rates of depression, anxiety, and insomnia. The Center for Disease Control (CDC, 2020) has reported that rural communities are at higher risk for contracting the virus due to higher rates of poor health conditions such as diabetes and obesity. Rural communities may also lack the appropriate infrastructure such as hospital beds and equipment and may feel the disruption of supplies such as personal protective equipment on a greater scale than those in urban communities (Ehrlich et al., 2020; Starbuck et al., 2012). The impact of the pandemic, added to the already existing stressors of volunteer first responders, can lead to some significant mental health outcomes that require creative approaches for mental health providers to address in rural communities.

To address the needs of first responders in rural communities this Banded Dissertation is comprised of three products: a conceptual article, a research study, and a presentation at the 2020 Council on Social Work Education's Annual Program Meeting. The conceptual article explores the prevalence of mental health outcomes of first responders' exposure to traumatic events with a focus on volunteer fire fighters and EMT's in rural communities. The article addresses innovative ways for mental health professionals to utilize rural cultural values and norms to address barriers this population has to receiving services. The second product is a research study conducted to explore the current state of first responders in rural communities amid a global pandemic. Attention was given towards preparation for the pandemic and the impact this has had on the mental health of first responders in rural communities. The third product is a presentation at a peer-reviewed conference describing a trauma-informed, culturally sensitive approach to working with rural volunteer first responders after a traumatic experience.

Conceptual Framework

The conceptual framework for this banded dissertation was formed from two primary theories: ecological theory and trauma-informed perspective. Both methods adopt a holistic approach to addressing the complex needs of those who experience trauma (Gitterman & Germain, 2008; Goodman et al., 2016). The ecological theory and trauma-informed perspective will provide the lens for understanding the nature of the experiences of rural first responders.

The ecological model in social work is considered a generic perspective, although it is one of the most influential and widely accepted perspectives (Wakefield, 1996). Major influences of the ecological perspective were Howard Odum and then subsequently his two sons Eugene and Howard T. Odum. Drawing from natural systems ecology, the family began applying this concept to understand the person-in-environment fit that social workers are familiar with today (Rotabi, 2007).

The ecological model focuses on the reciprocity of the person and the environment. An assumption the ecological model makes about the person is that every person has intrinsic value apart from others in the community. The environment also has intrinsic value. The relationship between the person and their environment, in this case, is that the person is constantly restructuring and adapting as the environment affects the person (Ungar, 2002).

One of the concepts of the ecological perspective is that it takes a holistic view of people. People can be understood in the relationship between their physical and social environments (Gitterman et al., 2008). Rural first responders have a deep connection to their community and the relationships within that community. Their past traumatic experiences, levels of training, experience, and other current stressors can also impact the trauma experience, which requires this holistic approach (Bryant & Harvey, 1996).

Another concept in the ecological theory is the "adaptive view of the development of human beings" (Gitterman et al., 2008, p. 52). This concept describes a person's ability to be resilient, even considering certain environmental factors. As Gitterman and Germain (2008) explained when discussing the components of this model, resiliency, protective factors, and coping skills are a way in which the person can adapt in the face of unfavorable environmental circumstances. First responders are significantly impacted by what happens to them within their environment. Those connections between individuals in the community and their environment will have an impact on their experiences and how they cope.

The trauma-informed approach is a newer concept that was first applied in mental health and substance abuse services and now has been adopted by other disciplines (Goodman et al., 2016). A trauma-informed approach assumes that trauma is not just one single event but rather an experience that defines the core of a person's identity (Harris & Fallot, 2001). There are two main concepts in a trauma-informed approach: anyone might be a trauma survivor, and workers need to understand trauma to help with recovery (Goodman et al., 2016). This approach focuses on being respectful, holistic, and strengths-based; providing a universal screening for history and training for providers; and educating clients on "triggers" (Harris & Fallot, 2001). Applying this perspective in the banded dissertation provides a lens that will inform work with first responders and an understanding of their trauma experiences.

There has been research on the effects of trauma on first responders. However, much of the research is focused on paid first responders rather than those who serve in rural communities (Milligan-Saville et al., 2018). Studies indicate that paid first responders tend to have more loyalty towards their supervisor, whereas volunteer responders were more loyal to their communities (Folwell & Kauer, 2018; Roberts et al., 2014). Loyalty and connection to the

community can have significant impacts on how volunteer first responders process trauma experiences within such tightly connected communities. This framework will guide the products of the Banded Dissertation to ensure a full understanding of the experiences of first responders.

Summary of Scholarship Products

This Banded Dissertation is comprised of three scholarly products addressing the impact of trauma on rural first responders. For the purpose of this banded dissertation, first responders are emergency response personnel and firefighters who either donate their time or are employed in rural fire departments in their community.

The first product is a conceptual paper exploring the values and principles of the trauma-informed perspective and rural cultural norms and values. This article provides mental health professionals an innovative way to address the stigma and barriers experienced by rural volunteer first responders. Through the lens of the ecological systems perspective and trauma-informed perspective, this author explored the literature seeking to answer the question, how can mental health professionals support volunteer first responders in rural communities? Addressing trauma-related outcomes of being a first responder, the culture of rural communities, and the trauma-informed perspective, this product provides social workers and mental health professionals a framework for providing trauma-related services to rural volunteer first responders.

The second product of the Banded Dissertation is a research study investigating the impact of the COVID-19 pandemic on rural fire departments in the eastern part of New Mexico. The participants for the study were a homogeneous sampling of rural first responders in two counties in eastern New Mexico. These counties are connected geographically and are part of the Eastern New Mexico EMS Region III organization. The online survey consisted of 27 questions.

The survey instrument addressed questions about first responder experiences, mental health scales, general health questions, and demographic information. Questions were created from the PTSD Checklist for DSM-5 (PCL-5) and the General Health Questionnaire (GHQ) (Bryant & Harvey, 1996). These two scales were included to assess the common outcome of PTSD symptoms found in the literature for first responders and to assess the general health of participants. Additional questions were added that were specific to preparation for a pandemic and to collect demographic information**.** Data was analyzed through SPSS to determine respondents' feelings of preparedness for the pandemic in comparison to their perceived levels of stress at the time of the survey.

The third Banded Dissertation product is a conference poster presentation at the Council on Social Work Education Annual Program Meeting in November 2020. The conference was a virtual conference, and the presentation was scripted and pre-recorded for viewing at the participants' convenience. Based on the conceptual article found in product one, this presentation addressed the gap in research literature for volunteer rural first responders in the United States, the barriers to receiving services, and culturally sensitive ways to aid this population in receiving help, including future possible work to be done in this area for mental health professionals.

Discussion

Social workers, even as mental health professionals, do not practice in a vacuum. Our work is intrinsically tied to our environment and the cultural context in which we practice, which includes rural communities. Our practice encompasses individuals, families, groups, communities, life spans, and life events for all those we encounter. Rural communities compromise a large portion of the United States (Ratcliffe et al., 2016). First responders are a key part of providing front-line services in these communities. A review of the literature has

shown that there is a gap in research about the impact of experiences of first responders in rural communities. This Banded Dissertation has addressed this crucial area for mental health professionals. Results highlighted the impact of the COVID-19 pandemic to those who provide critical front-line services to their communities. Focusing on rural first responders brought attention to the need for trauma related interventions that addressed the culture of the rural community and how to work within the environmental and cultural contexts of those communities. This will address the impact of the pandemic as well as other traumatic events experienced by this population.

Use of the trauma-informed perspective to overcome the stigma and barriers of receiving help for those in rural communities provides a framework for mental health professionals to work with volunteer first responders. A key component to the connections in the communities is the relationship the professional has with the environment. Being accepted and part of the community was one of the key factors to connection with others (Daley & Hickman, 2011). Practitioners can then use community institutions, be mindful of the language used, and seek support from leaders to incorporate the trauma-informed perspective into their work. This addresses the concerns of confidentiality, accessibility of services, ability to pay for services, and being in control of their treatment, which are all important to rural community members (Ardino, 2014; Haugen et al., 2017; Stanley et al., 2016; Waltman, 2010).

As social workers, being mindful of the environment and the constant changes that are happening within the environment provides a basis for how we change our work with clients. The social work profession has in recent years adopted the 12 Grand Challenges for Social Work as a focus. One of these is challenges is *Responding To A Rapidly Changing Environment* (Fong, Lubben & Barth, 2018). As our environment changes, we are seeing an increase in diseases and

viruses, as is evident by the most recent COVID-19 pandemic. These changes are creating additional stress and strain on social workers and mental health professionals working within their communities. The research study in this Banded Dissertation investigated the impact of this changing environment on first responders in rural communities.

Exploring the impact of the COVID-19 pandemic on rural first responders yielded significant information that community mental health professionals can incorporate into their trauma-informed, culturally sensitive approaches. In this study, the demographics of the respondents provide two different insights into experiences: their role at the departments they served in, and their status as paid full-time or volunteer first responders. Sixty percent identified as both an EMT and firefighter, which is common in rural communities. More respondents also identified as volunteer (56%) rather than paid full-time, another common outcome from the literature (Folwell & Kauer, 2018).

To understand the needs of the rural first responder population, it was important to identify their levels of preparation for the pandemic and current levels of stress in response to the pandemic. The study indicated that prior preparation was more common with those who are paid first responders than those who were volunteer. It was indicated that in response to the pandemic, there was more training completed to prepare for responding to the pandemic, including increased accessibility to personal protective equipment.

Results of the study regarding mental health stress indicators were overall positive. T-tests run between paid versus volunteer first responders and mental health stress indicators yielded no statistical significance in the data. An important note was in comparisons between the paid group and volunteer group of first responders. Overall, the mean averages of the PCL-5 subset of questions between the two groups were higher for volunteer first responders than those

that identified as paid first responders, indicating a greater impact of stress. This could be linked to many of the other stressors that volunteer first responders experience as well as the lack of resources for these departments previously discussed in the literature (Benedek et al., 2007; Bryant & Harvey, 1996; Kleim & Westphal, 2011; Milligan-Saville et al., 2018).

The research study conducted for this Banded Dissertation was conducted within the first six months of the COVID-19 pandemic. Since the onset of this pandemic, it has increased in severity and significance throughout the country (CDC, 2020). Looking into the impact of the changing environment and the effect on those in rural communities is vital for social work education as we move forward.

Implications for Social Work Education

As social work education responds to changes in online accessibility of education, more potential social workers are being reached in rural communities. The research completed in the Banded Dissertation is important because it allows the development of high-quality social workers within rural communities where mental health professionals are not as readily found. This also allows for individuals to be trained and remain in the communities they have strong ties to. The conceptual article links to the importance of these connections to effectively helping those that serve in rural communities. Understanding the theory of trauma and linking it to the culture of the community can help those who have continual exposure to trauma. Mental health providers in rural communities will be working with this population of first responders. Understanding their experiences and the impact of a pandemic on their mental health can help the providers anticipate potential coping mechanisms for this population. This study also provides an avenue for the mental health provider to anticipate potential needs and to guide them in conducting groups within fire departments to address concerns of working during a pandemic.

Since social workers do not practice within a vacuum, understanding how to work with other professionals is an important part of inter-professional education and collaboration. As the higher learning commissions in education continue to push towards inter-professional collaboration, this study and conceptual framework indicate the importance of continued work towards integrating social work with other professionals in the environment. Education for social workers in rural communities is key to closing the gap in education and research that has been discovered. In addition to the importance of this on social work education, there is also an impact on future research as we respond to the changing environment.

Implications for Future Research

The research study was a descriptive study that provides many implications for future research with rural first responders. Aiding rural fire departments as they look to the future of managing a global health pandemic is important for mental health professionals in those communities. The study indicated that minimal training and preparation occurred prior to the outbreak of COVID-19. Preparation ahead of time can alleviate stress that will be present once an outbreak occurs. Departments can place more focus within their ongoing training schedule on how to respond to a pandemic. Data addressing the need for training and PPE can also allow rural departments to advocate for funding on a state level for these services and equipment.

The research study offered a look at the mental health impact and preparation during the beginning of the pandemic before numbers in the area increased. Conducting the study again, months into the pandemic, could allow for comparisons between the initial response and the ongoing response. As the pandemic continues, stressors on the first responders can continue to compound and increase the risk of trauma in the first responders. The comparison of the initial

study and future studies can aid in understanding where the mental health stressors lie and how mental health providers and rural departments can support the first responders going forward.

Another area to research more in-depth is based upon the responses to the qualitative question in the study. Participants were asked to provide any additional information surrounding the topic of pandemic preparation and mental health stress. One response indicated that the stress was not related to the job itself, but more to the impact it can have on the first responder's loved ones such as bringing the virus to them or the economic impact due to loss of work if the first responder were to get sick. A more in-depth qualitative study will contribute to the literature to better understand the comprehensive impact the pandemic is having on those who respond in emergency situations.

More research should also be focused on the overall impact of experiences of first responders in rural communities. Since rural communities are small and relationships extend back generations, many first responders have personal relationships to those who they may be treating. The mental health impact of having a personal relationship with the victim could have the potential to increase negative mental health symptoms and post-traumatic stress disorder. Conducting more research in this area with rural first responders in the U.S. can contribute to the literature on rural first responders.

Conclusion

Part of the social work response to the changing environment includes expanding research and work within rural communities. It is essential for social workers to acquire knowledge and skills to meet clients within their cultural context and the environment that impacts them. This Banded Dissertation highlights the need to incorporate knowledge of pandemic stressors and trauma-informed practices for rural first responders with culturally

sensitive, trauma-informed approaches to meet their unique situations. Although the research results did not yield statistically significant results, more research might provide different outcomes with the ever changing impact the pandemic has on communities. The high number of rural communities and first responders in those communities requires continued research to understand how to meet them where they are to provide support for healthy communities and families.

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Working with Rural Volunteer First Responders: Strategies for Helping in Rural Communities

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Abstract

Volunteer first responders make up 70% of U.S. first responders. Although they make up a large portion of first responders, minimal research has been conducted on this population. Current literature and research on paid first responders discusses the impact of trauma on first responders and various therapeutic techniques used to address the trauma. Volunteer first responders in rural communities are more susceptible to trauma due to strong ties to the community, the chance of responding to someone personally known to them, and limited resources and training, which can create an environment for mental health concerns. In addition, rural communities and their culture create stigma and barriers to first responders who need mental health services. Using the values and principles of the trauma-informed perspective and rural cultural norms and values, this article provides mental health professionals an innovative way to address the stigma and barriers experienced by rural volunteer first responders.

Keywords: first responder, volunteer first responder, trauma-informed perspective, rural culture

Working with Rural Volunteer First Responders: Strategies for Helping in Rural Communities

First responders are individuals who arrive at the early stages of an accident or crisis and are responsible for the protection and preservation of life and property (Prati & Pietrantoni, 2010). Between 60 and 90% of first responders have witnessed incidents with multiple casualties, 61-84% have seen the death of a child, and 46-84% have witnessed the death of a person that is in their care (Regambal et al., 2015). Experiences such as these could lead to potential mental health outcomes.

According to the U.S. census, rural areas are defined as those that are outside of "urbanized areas" (50,000 people or more) and "urban clusters" (at least 2,500 with 1,000 people per square mile), which leaves much of the U.S. considered as rural (Ratcliffe et al., 2016). In the U.S., 70% of first responders volunteer as firefighters and emergency medical technicians (EMTs). Many volunteer first responders are in communities that are considered rural, serving about one-third of the overall population (Folwell & Kauer, 2018). Volunteer first responders continue to serve in their communities even after being exposed to traumatic events. They are on-call most of the time and must balance this with their personal and work commitments, potentially adding additional strain to their lives (Wagner & O'Neill, 2012).

Research has shown that exposure to traumatic instances can lead to potential mental health concerns (Milligan-Saville et al., 2018). However, in the U.S., limited research has been completed on the impact of stressful and traumatic events on rural volunteer first responders. In addition to the nature of the calls responded to, rural volunteer first responders encounter the chance of responding to someone known personally to them, and they may have limited resources and training. This article discusses how the principles and values of the trauma-

informed approach can be used to address the stigmas and barriers found within rural communities and provide practical ways to incorporate these concepts for mental health providers who work with this population in rural communities.

Literature Review

The effects of trauma on first responders have been explored through research (Alexander & Klein, 2001; Benedek et al., 2007; Flannery, 2015; Haugen et al., 2012a; Heinrichs et al., 2005; Prati & Pietrantoni, 2010); however, much of the research is focused on paid first responders rather than those who serve as volunteers in rural communities (Milligan-Saville et al., 2018). Research on volunteer, rural first responders has primarily been conducted in other countries such as the United Kingdom, Australia, and Canada (Bryant & Harvey, 1996; Milligan-Saville et al., 2018; Regambel et al., 2015; Roberts et al., 2014; Tuckey & Scott, 2014; Wagner & O'Neill, 2012). A common theme found among the literature is the mental health impact caused by the work of both volunteer and paid first responders. Mental health professionals working with the first responders in rural communities should understand what the mental health impact can be, common ways first responders manage that impact, what it means to be a volunteer first responder, and rural culture and the strengths and barriers to receiving help imbedded in this culture.

Mental Health Stressors

Research conducted on first responders in the U.S. addresses the high incidence of post-traumatic stress disorder as well as other mental health outcomes of first responders. One of the diagnoses commonly discovered through studies of both volunteer and paid first responders is Post Traumatic Stress Disorder (PTSD). The Diagnostic and Statistical Manual of Mental Disorder 5 (American Psychiatric Association [APA], 2013) indicates that one of the primary

criteria for diagnosis is exposure to a traumatic or stressful event. Studies have indicated a range of first responder experiences linked to PTSD, such as large natural disasters, fatal crashes, life-threatening situations, repeated exposure to traumatic events (Bryant & Harvey, 1996; Benedek et al., 2007; Kleim & Westphal, 2011; Milligan-Saville et al., 2018), and a sense of helplessness during the event (Bryant & Harvey, 1996). The degree to which the first responders can recover from such experiences differs and may be related to factors such as previous trauma experiences, mental health diagnosis, level of support, and degree of training (Heinrichs et al., 2005; Milligan-Saville et al., 2018).

Studies conducted by Benedek et al. (2007) and Regambal et al. (2015) indicate that a predictor of PTSD among first responders is their level of disassociation during the event. The study completed by Regambal (2015) determined that two factors were found in events that resulted in continued PTSD symptoms: chaos and resource limitations (not having the equipment needed during the crisis or not having enough training). Regambal (2015) indicated that dissociation could be a coping mechanism to deal with a lost sense of control brought on by chaotic situations.

Most alarming is the association between PTSD and suicide ideation among firefighters, who are considered first responders. A mixed-method study completed by Stanley et al. (2015b) of 1,027 firefighters addressed suicidality among firefighters. Results indicated 15.5% of firefighters made at least one suicide attempt; the general population percentage is only 1.9-8.7%. Firefighters with reported suicidal ideation during their career total 46.8% as compared to 5.6-14.3% found in the general population. Firefighters who have developed a suicide plan during their time of service was reported at 19.2% compared with 3.9% in the general population. A secondary study based on this study, completed by Stanley et al. (2016a),

discovered that volunteer firefighters had higher reported incidents of suicidal ideation than paid firefighters.

Although PTSD is the most prevalent mental health outcome with this population, other mental health concerns can develop as well. Studies have indicated higher rates of psychological distress, depression, drug and alcohol disorder, and other psychological disorders among first responders (Kleim & Westphal, 2011; Milligan-Saville et al., 2018; Stanley et al., 2016a). The rates are higher than the general population and are higher for volunteer first responders compared to paid first responders (Stanley et al., 2016a). The high numbers are of significant concern to those in rural communities who have limited resources. Different methods of helping first responders with mental health concerns have been used in different communities.

Coping with the Mental Health Impact

The literature highlights both therapeutic methods provided by mental health professionals as well as informal methods used by the first responders themselves. Mental health professionals provide formal therapeutic services to address their experiences if sought by the first responder. First responders also cope with the mental health impact through more informal methods as discussed below.

Critical Incident Stress Debriefing

A commonly used coping method by first responders is Critical Incident Stress Debriefing (CISD). The method is a structured way to facilitate coping among individuals who have experienced a traumatic event, including first responders (Folwell & Kauer, 2018; Tuckey & Scott, 2013). Tuckey and Scott (2013) described the process of CIDS as seven phases: introduction, fact, thought, reaction, symptom, education, and re-entry. Their study of 67 Australian firefighters indicated improved mood using this method one month after they

experienced a critical incident. However, there was not a statistically significant relationship to the prevention of PTSD symptoms, which was the study goal (Tuckey & Scott, 2013). Folwell and Kauer (2018) reported this intervention to be helpful by 15 respondents and not helpful by six respondents. The six respondents felt they took on another person's grief during this process. There were also concerns about confidentiality since this is completed in a group setting. To address these issues of confidentiality and not taking on another person's grief, individualized, cognitive-based theories are an evidence-based option for first responders.

Cognitive-Based Therapies

Some of the most effective techniques for first responders are cognitive-based therapies (Chopko & Schwartz, 2009). Cognitive-based therapies allow for awareness and controllability of what happened, which helps with treating PTSD symptoms that are a common diagnosis in first responders (Chopko & Schwartz, 2009). Other therapeutic modalities used with PTSD symptoms are mindfulness, eye movement desensitization and reprocessing (EMDR), and exposure therapy (Haugen et al., 2012a). Flannery (2014) suggested that those treating first responders use a multimodal approach with CBT in addition to other therapies to address all areas of PTSD symptoms. However, not all first responders utilize formal therapeutic treatments, but rather use informal means of dealing with the trauma.

Informal Coping

A study by Folwell and Kauer (2018) indicated that, at times, first responders used informal coping strategies to deal with the stress of volunteering. The strategies Folwell and Kauer reported in their study were informal debriefs, humor, escaping duties, vacations, and physical activity. Informal debriefs, such as discussing the incident amongst coworkers in a casual setting, were found to be effective for the respondents because they were not as

confrontational as the more formal debriefings. Humor was also found to be effective because it involves a bonding process and a means of communicating with each other about the difficult aspects of the job. Humor is used to relieve stress and create group cohesion around a common issue (Folwell & Kauer, 2018). The coping strategies used vary among first responders because of the differences between volunteer and paid first responders as described below.

Volunteer Versus Paid First Responders

Volunteers make up a large portion of those who provide EMS and fire services in rural communities. Several studies have been completed on the mental health effects of trauma on first responders, but few studies have specifically looked at the impact of trauma on volunteer first responders. Out of these, one study conducted by Folwell and Kauer (2018) was completed in the U.S. This qualitative study addressed stressors and coping factors in a community in the northwest region of the U.S. The study discovered four common stressors: types of calls, extensive sense of duty, competency concerns, and knowing the patient. Primary coping factors used were spending time with family, taking a vacation, and physical exercise. Another study conducted in the U.S by Stanley et al. (2016a) addressed psychiatric symptoms and barriers to mental health care, comparing volunteer and paid first responders. The results of the study indicated that volunteer firefighters had higher levels of depression, posttraumatic stress, and suicidal symptoms than paid firefighters. Structural barriers to treatment were also higher with the volunteer group.

Volunteer first responders continue to serve in their communities even after being exposed to traumatic events. They are on call much of the time, balancing this with their personal and work commitments, which can add additional strain to their lives (Wagner & O'Neill, 2012). Studies conducted by Folwell and Kauer (2018), Roberts et al. (2014), and Timmons and

Vernon-Evans (2012) indicated that paid first responders tend to have more loyalty towards their supervisor, whereas volunteer responders are more loyal to their communities. The Timmons and Vernon-Evans study also discovered other motivating factors for volunteering: feeling like they had something to give, acquiring skills, and creation of a stronger community. Strong ties to community and those within the community are part of rural culture and can impact how a volunteer first responder views seeking help and how they are able to get help.

Rural Culture

Being culturally competent means understanding the history, language, etiquette, interpersonal interactions, and emotional expression, to name a few (Ardino, 2014). Rural communities have a unique culture of their own. It is important for practitioners who work with rural volunteer first responders to have an understanding of how the culture of the rural community can impact services to clients, clients seeking services, and how the client views the practitioner.

Rural culture has aspects that can either aid or provide a challenge to the practitioner working with this population. According to Waltman (2010), the rural cultural value system includes an emphasis on self-reliance, reliance on tradition, and resistance to change. Daley and Hickman (2011) identify that how the practitioner is viewed in the community is a cultural challenge as well. It is important as a practitioner to be known and respected in the community, which means that you are viewed as part of the community. If a practitioner does not engage with the community on a personal level, especially if they are not from the community, then community members may be more reluctant to receive help from them. Helping neighbors and respect for long-standing institutions like churches and schools are a couple of strengths of rural

communities (Waltman, 2010). Connections to the community can create natural helping networks for the practitioner and can be utilized as a strength when working with clients.

Haugen et al. (2017) conducted a systematic review and meta-analyses identifying studies about the stigma and barriers first responders experience that could impact receiving mental health treatment. Professionals represented in the study were police officers, fire fighters, rescue workers, and combat medic first responders (Haugen et al., 2017). The results of this study indicated that 33.1% of the participants experienced stigma regarding mental health, and 9.3% experienced barriers to receiving care. The study reported the confidentiality of services and a negative impact on careers as the primary stigma concerns of the study sample. Other barriers to mental health care identified in the study were not knowing where to get help and scheduling appointments (Haugen et al., 2017).

An additional article by Stanley et al. (2016) discussed comparisons between volunteer and career firefighters and their barriers to mental health care. Using quantitative surveys, Stanley et al. discovered that volunteer firefighters reported more structural barriers to receiving mental health services. Volunteer firefighters may have less access to affordable mental health services that understand firefighter culture. Volunteers also receive less training and organizational support to manage stress (Stanley et al., 2016). Using knowledge of how rural culture, stigmas, and barriers impact those who volunteer with their departments can inform how trauma-informed values can be applied by mental health practitioners.

Trauma-Informed Perspective

First responders have potential mental health outcomes that can benefit from utilizing the trauma-informed perspective. Berger and Quiros (2016) describe the concept of trauma-informed as “a system of care that demonstrates an understanding and recognition of trauma as both

interpersonal and sociopolitical and is therefore, aligned with principles of social justice" (p. 145). Whereas, the trauma-informed perspective consists of specific principles and values that should be considered within the client's cultural context (Ardino, 2014; Freeman, 2001; Krause et al., 2017).

Principles of the Trauma-Informed Perspective

Harris and Fallot (2001) discuss principles and philosophies that are important aspects of a trauma-informed approach to helping. One principle is related to how practitioners understand trauma. Understanding trauma through a trauma-informed lens requires acknowledgment that repeated traumatic events can change how a client views the world. First responders are subject to several traumatic events that can impact this view and can potentially trigger past experiences that can compound their symptoms and reactions to traumatic events. In response to these traumatic events, first responders need to work through constructing new theories on how the world works (Harris & Fallot, 2001).

A second principle Harris and Fallot (2001) discuss is understanding the client within their environment. This second principle requires the practitioner to look at the person and not just the symptoms—addressing the behaviors within the whole picture of the person's life. The holistic practitioner can use the client's cultural environment as a strength in helping the client make sense of the trauma (Ardino, 2014).

The third principle Harris and Fallot (2001) discuss is to understand how services need to be delivered to the client. Allowing the client to be an active participant in their treatment will give them a sense of empowerment and control and allow for collaboration with the practitioner. Delivery of services ties into the fourth principle; the relationship between the client and the

practitioner (Harris & Fallot, 2001). The collaborative approach may help the client be more invested in their treatment.

Values of the Trauma-Informed Perspective

The values of the trauma-informed perspective are consistent with the principles identified by Harris and Fallot (2001). Freeman (2001) states these values are power and control, authority and responsibility, goals, and language. In the trauma-informed perspective, power and control are given more to the client than the practitioner. The focus is on empowerment, strengths, and skill building. By doing this, clients can increase their sense of hope identifying their own coping mechanisms and solutions to working through the trauma (Krause et al., 2017).

Authority and responsibility are given back to the client as well. Freeman (2001) dictates that clients may exercise their responsibility best through a psychoeducational approach, allowing the client to link the trauma to coping strategies. Clients are brought into the process to help shift their perspective of the current issues the trauma created to what they want to see differently (Krause et al., 2017). The value also involves the goals the client is striving to reach. The goals create growth and change, not just stabilizing behaviors (Freeman, 2001). Clients are involved in this process and determine the resources within their communities they will utilize to achieve these goals.

Language was also identified by Freeman (2001) to empower clients and help them to reframe and understand their experiences. Examples of this are changing “treatment plan” to “plan of action,” changing “assessment” to “personal history,” and “progress notes” to “narrative of events.” Use of language can take away some of the stigma of receiving clinical services. Krause et al. (2017) discusses how language can be a powerful factor by using words that instill hope. Examples of this are saying “when” instead of “if,” avoiding “why” and using “how.”

Language, along with the other principles and values of the trauma-informed perspective, can be used to address the stigma and barriers volunteer first responders may have to receiving professional help.

Discussion: Framework for Treating First Responders in Rural Communities

Use of the trauma-informed perspective has proven to be beneficial when working with those who have mental health impacts based on trauma-related experiences. Volunteer first responders have unique challenges related to the work they do in their communities, their rural cultural perspective, and the barriers and stigma rural communities encounter when considering receiving services. Integrating the cultural aspect to the values of the trauma-informed perspective can bring together a unique approach to working with rural volunteer first responders within the context of their communities.

Applying the Trauma-Informed Perspective

Several stigmas and barriers faced by volunteer first responders in rural communities have been identified in the literature (Haugen et al., 2017; Stanley et al., 2016; Waltman, 2010). The stigmas and barriers are confidentiality, receiving help, the culture of rural communities such as self-reliance and unwillingness to receive help, knowing where to get help, scheduling appointments, less access to affordable mental health services, and less training and organizational support. Although research indicates that the stigmas were more common than tangible barriers to receiving services (Haugen et al., 2017), practitioners should incorporate the trauma-informed principles and values into work with this population to address both the stigmas and the barriers. Mental health practitioners can use community institutions, be mindful of the language used, become involved in the community, and seek support from leaders to incorporate the trauma-informed perspective into their work.

Use of Long-Standing Community Institutions

Confidentiality issues are a concern for volunteer rural first responders when seeking help. Many in rural communities are aware of what is going on with each other because of being known within the tight-knit nature of the community. To address this stigma, practitioners can use the principle of understanding the client, especially within the context of the community (Harris & Fallot, 2001). The client may want to seek services but does not want others to see them in places where those services are obviously provided, such as a mental health clinic or office. Practitioners can utilize private spaces within common gathering places for the community, such as churches or community centers.

To address the barriers of scheduling appointments and not knowing where to receive help, these respected institutions within the community (Waltman, 2010) can be a resource as well. If the practitioner is utilizing community spaces to meet with first responders, they can also allow for walk-in times to avoid issues with scheduling. Community spaces are also known among the first responders as a place to go for help without drawing attention to themselves the way going into a mental health provider's office could.

Practitioners can also try to utilize churches and community organizations to offset the costs for those seeking help. Those in rural communities may not have access to affordable services due to inadequate or lack of insurance (Stanley et al., 2016). Reducing the cost is important to ensure mental health needs are being met. Practitioners can also provide available walk-in times at the fire department before and after regularly scheduled meetings as a way to reduce cost and use already identified comfortable spaces for the first responders.

Language

Understanding language was identified by Ardino (2014) as a way to being culturally competent with a particular group. Using the trauma-informed value of language (Freeman, 2001) is another way to address the stigma associated with receiving help. Jargon that is clinical in nature and specific to the mental health profession can make the first responder uncomfortable because they may not know or understand the jargon, or it constantly reminds them of how they are receiving help through a provider. The practitioner can learn the cultural language of the community and utilize it instead of clinical terms such as "treatment plan" and "assessment." This change in language may also help the first responder feel more connected to the process.

Integrating into the Community

If a practitioner is not originally from the rural community, becoming highly involved and known to those in the community may bridge the stigma of receiving help. Relationships in rural communities are important and those in the communities want to view the practitioner as someone who is part of the community (Daley & Hickman, 2011). If a practitioner is seen as one of the members of the community, then it is more natural for first responders to accept help from them because helping neighbors is part of the culture of rural communities (Waltman, 2010). As a way to become involved in the community and in the population that serves fire departments, the practitioner can begin connecting with the Fire and EMS chiefs to start providing opportunities for education on mental health and trauma in first responders. To make first responders comfortable, it is recommended that the educational trainings occur at the fire department during the regularly scheduled meeting and training times.

Future Research

Experiences of rural volunteer first responders is an area lacking in research in the U.S. Further research regarding the impact of trauma experiences with this population will continue to

help practitioners develop a more refined culturally- and trauma-informed practice. More research can also lead to increased funding for those in rural volunteer departments to receive the help they need.

Awareness is crucial to providing the best possible services for rural volunteer first responders. Reducing the stigma of receiving help needs to come from more conversations about the potential outcomes of the traumatic events experienced by this population. Many first responder organizations across the country host conferences and training for their volunteers and employees. Workshops at these events can provide more conversation to help normalize the experiences of this population. The more this is discussed, the more the stigma can be reduced, which is a major barrier to those in rural communities receiving services.

Conclusion

Rural volunteer first responders make up a unique aspect of first responder work. Practitioners should be concerned about their mental health since rural volunteer first responders serve a third of the U.S. population. Using trauma-informed and culturally sensitive methods can have a positive impact on this population. The factors to consider are the delivery and accessibility of these services with the least amount of stigma involved. Integrating the trauma-informed approach into the culture of rural communities provides an avenue to addressing the barriers and stigmas those in rural communities have to receiving help. Although this can be a challenge, it is potentially an effective means of helping those who help others.

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Rural First Responders: The Experience of Responding to a Pandemic

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Abstract

Rural first responders are part of the frontline workers in response to the COVID-19 pandemic that began in late 2019. These workers can be paid full-time members of a fire department or volunteer for a department and have other job responsibilities. As the COVID-19 pandemic spread throughout the U.S., rural first responders became part of the group of frontline workers that had to be trained and prepared to respond in a safe way, with adequate personal protective equipment, to emergency calls. This study explored training and preparation of rural first responders to a global pandemic and the mental health impact they were experiencing. Comparisons were made between training and preparedness and mental health indicators based on questions from the PCL-5 scale. Results indicated that despite lack of previous training, and with the current training received, most responders felt prepared to safely respond to an emergency call. Overall, mental health indicators were positive, with the exception of a few specified areas. Comparing paid full-time and volunteer first responders showed that mental health indicators on the PCL-5 were higher among volunteers. Strengths and limitations of the study provide possible explanations to the outcomes of the study. A qualitative question provides further potential areas of research with this population.

Keywords: rural first responders, COVID-19 pandemic, PCL-5 scale, emergency medical technician (EMT), volunteer first responder

Rural First Responders: The Experience of Responding to a Pandemic

The end of 2019 and the beginning of 2020 presented challenges for the world with the emergence of the COVID-19 virus, creating a pandemic. The effects of this were felt across many disciplines as the world scrambled to respond. First responders were one of the groups on the front lines of this response. First responders are trained to handle many situations specific to their jobs. The efforts of health care professionals, police, and emergency medical technicians (EMTs) have been highlighted across the globe. Large cities have been the highlight of the outbreak in the media, but rural communities feel the stress of this too. This invites the question: How prepared through training are they to handle a global pandemic and what might the impact of this pandemic be for them on their mental health?

According to the U.S. census, rural areas are defined as those that are outside of "urbanized areas" (50,000 people or more) and "urban clusters" (at least 2,500 with 1,000 people per square mile). This leaves much of the U.S. considered as rural (Ratcliffe et al., 2016). In rural communities, the first responders to medical crises are typically EMTs, firefighters, and police officers. Seventy percent of firefighter response units comprised of firefighters and EMTs are volunteer and serve about one-third of the overall U.S. population (Folwell & Kauer, 2018). For this study, EMTs and firefighters were surveyed since they make up rural fire departments and typically carry both roles within their departments and consist of either paid or volunteer members.

Many factors can cause negative emotional responses in workers of rural fire departments. Common stressors experienced are types of calls, extensive sense of duty, competency concerns, and knowing the patient (Folwell & Kauer, 2018). Rural first responders are also on call much of the time, balancing this with their personal and work commitments,

which can add additional strain to their lives (Wagner & O'Neill, 2012). The added stress of a global pandemic can increase or result in mental health challenges for the first responder. Mental health providers are professionals prepared to assist first responders as they deal with the stressors of the COVID-19 pandemic. Knowing the potential mental health stress first responders may experience can inform the provider as to the best way to assist the first responder. This study used a descriptive survey to ask the question: What is the impact of being a rural first responder during a pandemic health crisis? This study looked at levels of professional preparedness for the pandemic and how this affects their coping and overall feelings of mental and physical health. Other factors such as paid versus volunteer, age, length of time served, and other trainings were variables that were considered.

Literature Review

Rural First Responders

First responders are individuals who arrive at the early stages of an accident or crisis and are responsible for the protection and preservation of life and property (Prati & Pietrantoni, 2010). In rural fire departments, first responders are generally firefighters and emergency medical technicians (EMTs). Rural first responders make up a large part of the number of first responders overall. Serving roughly one-third of the overall population in the U.S. (Folwell & Kauer, 2018), first responders in rural communities can be full-time, paid employees in their fire station, but they are often members of volunteer fire departments.

When addressing the paid versus volunteer members of rural fire departments, there are some unique challenges between them. For both rural and paid workers, responding to a call where the person is known to them is more likely than in urban settings. The cultural aspects of rural communities lend to strong ties to the community and those in the community (Waltman,

2010). Paid first responders typically respond to more calls than volunteers because the communities are larger. This can lead to more exposure to traumatic situations (Benedek et al., 2007; Bryant & Harvey, 1996; Kleim & Westphal, 2011; Milligan-Saville et al., 2018). But in most cases, paid first responders do not have some of the external stressors that volunteer first responders may encounter.

Volunteer first responders devote their time to their community-based fire departments for little to no pay. Many have full-time employment outside of their responsibilities to the department. A qualitative study conducted by Folwell and Kauer (2018) listed four common types of stressors for volunteer first responders: types of calls, extensive sense of duty, competency concerns, and knowing the patient. Volunteer first responders are on call much of the time, balancing this with their personal and work commitments, which can add additional strain to their lives (Wagner & O'Neill, 2012). Studies conducted by Folwell and Kauer (2018), Roberts et al. (2014), and Timmons and Vernon-Evans (2012) indicate that paid first responders tend to have more loyalty towards their supervisor, whereas volunteer responders were more loyal to their communities. Rural communities also have less access to mental health support as well as a cultural stigma within first responders to receiving mental health services (Haugen et al., 2017; Stanley et al., 2017). Regardless of whether the first responder is paid or volunteer, the nature of the job can lead to significant mental health outcomes for this population.

Mental Health Stressors

Repeated exposure to traumatic or stressful events can cause several significant mental health outcomes to those experiencing it. This is true for rural first responders. One of the most common outcomes of job-related trauma and stress for this population is Post Traumatic Stress Disorder (PTSD). Studies have indicated a range of first responder experiences linked to PTSD,

such as large natural disasters, fatal crashes, life-threatening situations, repeated exposure to traumatic events (Benedek et al., 2007; Bryant & Harvey, 1996; Milligan-Saville et al., 2018; Kleim & Westphal, 2011), and a sense of helplessness during the event (Bryant & Harvey, 1996).

Although PTSD is a common mental health outcome of first responders, other mental health stressors are also experienced by this group. Depressive disorders, anxiety disorders, and drug and alcohol abuse are common outcomes for those who are exposed to repeated trauma. Kleim and Westphal (2011) discuss commonly reported reasons for this among first responders. These include responding to someone who the first responder knows personally, a situation where there is dismemberment, child-involved incidents, and responding to someone who looks like a loved one. These are all results of studies for first responders in their typical, everyday responsibilities. Adding the stressors of a pandemic presents an added risk to those who serve rural communities.

COVID-19 Pandemic

The COVID-19 pandemic began in late 2019 and, until the date of this writing in 2020, is continuing. COVID-19 is a new strain of virus that causes respiratory symptoms in its victims. The outbreak began in Wuhan, China, and has quickly spread across the globe, causing a pandemic. Current statistics as of the date of this writing, for the United States, indicate that more than 28 million people have tested positive for the virus and there have been over 500,000 deaths (Center for Disease Control and Prevention [CDC], 2020). Specific statistics on rural America have not been reported by the CDC, but the makeup of rural America puts them at higher risk. The CDC (2020) reports that rural communities have risk factors due to poorer health, race, and socioeconomic status. Studies specific to this pandemic and the effects on those

working the front lines are emerging but are limited. There are other studies completed as a response to pandemics such as H1N1 that can be applied to this pandemic.

A common theme in the literature points to the preparedness of first responders and the communities in the event a pandemic occurs. The EMS Infectious Disease Playbook provides guidance on preparation for pandemics, including guidance on standard, contact, droplet, airborne, and special respiratory precautions (Assistant Secretary for Preparedness and Response, 2017). The EMS Playbook provides detailed explanations for departments on how to work with infectious diseases and pandemics. However, many rural departments are lacking in money and resources (Regambal et al., 2015). Not having the resources to manage pandemic and infectious diseases could be a source of additional stress for these departments.

In addition to dealing with fewer resources for the departments, rural communities may be more at risk for high infection rates and other stressors. The CDC (2020) reports that those in rural communities are at higher risk for contracting a disease due to higher rates of poor health such as diabetes and obesity. Rural communities do not always have a strong infrastructure, such as hospitals, that larger communities do, resulting in a lack of needed beds for sick patients. During a pandemic, there is usually a disruption in the economy and the delivery of supplies (Starbuck et al., 2012). The COVID-19 pandemic has already resulted in a world-wide shortage of personal protective equipment (PPE) supplies, such as high-grade masks and gloves. This negatively impacts the departments of first responders if the supply of PPE is not replenished regularly (Ehrlich et al., 2020).

Besides the stress of low resources, a high risk for infection, and inadequate infrastructure, the literature also discussed concern for the mental health of first responders during a pandemic. The World Health Organization (WHO) and the CDC warn that there will be

another wave of the COVID-19 pandemic expected as the winter months of 2020 and 2021 approach. This raises concerns for first responders who are already fatigued and experiencing mental health stressors. Ehrlich, McKenney, and Eikbuli (2020) report that as stress increases and mental health outcomes are being felt, there is a risk of a reduced workforce, burnout, and ineffectiveness in performance among first responders. Other potential factors that impact the mental health of first responders in this pandemic are an overwhelming workload, depletion of personal protection equipment, widespread media coverage, and feelings of being inadequately supported (Lai et al., 2020).

Since the COVID-19 pandemic is still emerging, studies have not been completed in America on the mental health outcomes of first responders. There has been a study conducted in China among those in Wuhan where the pandemic first began. The study conducted by Lai et al. (2020) rated symptoms of mental health stressors among all those working with COVID-19 patients. Rates of depression, anxiety, insomnia, and distress among participants were 34% and above. Those who were working on the front line, such as first responders, was an independent variable that was at higher risk in all areas (Lai et al., 2020). These outcomes are important to consider as we look at how this pandemic has impacted first responders throughout the world.

First responders in all communities have been impacted greatly by the COVID-19 pandemic. Rural communities struggle with limited resources and other factors that can significantly impact how they respond to a global pandemic. This study explores the current state of first responders in rural communities amid a global pandemic.

Method

To provide continued research on the COVID-19 pandemic, a study was conducted to explore the impact of the health pandemic on rural first responders. The study used survey

methodology to describe how prepared through training rural first responders are during a global pandemic and what the impact of this pandemic is on their mental health. There are many rural communities across the United States. The study focuses on a rural farming community in the U.S. Southwest.

Sample and Population

The participants of this study were a homogeneous sampling of rural first responders in two counties in eastern New Mexico. These counties are connected geographically and are part of the Eastern New Mexico EMS Region III organization. There are eight volunteer fire departments and two paid fire departments between the two counties. Out of the eight volunteer departments, five participated. Both paid fire departments participated as well. Surveys were distributed to 151 individuals within these departments.

Data Collection

Data were collected through an online survey. The survey instrument was piloted with emergency management professionals to check for clarity of questions. The study was reviewed, approved, and monitored by the IRB committee at the University of St. Thomas in St. Paul, Minnesota. The survey was primarily quantitative, with one open-ended question at the end. Inclusion criteria were individuals who were at least 18 years of age at the time of the survey and had been an active member of their fire department for a minimum of one year. There were no exclusions based on gender, age, race, or ethnicity.

Participants in the survey were recruited from seven rural fire departments in two eastern counties in New Mexico. The fire chief and head EMS from each volunteer fire department were contacted as gatekeepers of their department. The purpose of the survey, a description of the survey, and how data was to be collected were explained. A request was then made for the chiefs

to send the invitation to participate in the survey through the departmental email addresses of the volunteers and workers. This invitation provided a detailed explanation of the survey, its purpose, a consent form, and a link to the survey. The survey was open to participants from June through July of 2020. Reminder emails were sent at two weeks and again at four weeks. Response rates were low, so a third reminder email was sent to encourage participation and provide a date when the survey would close. Responses were recorded through the Qualtrics software.

The online survey consisted of 27 questions. The survey instrument addressed questions about first responder experiences, mental health scales, general health questions, and demographic information. Based on recommendation, the survey used validated subscales from the Veteran's Administration PTSD Checklist for DSM-5 (PCL-5) and the General Health Questionnaire (GHQ) (Bryant & Harvey, 1996). These two scales were included to assess the common outcome of PTSD symptoms found in the literature for first responders and to assess the general health of participants. Additional questions were added specific to preparation for a pandemic and to collect demographic information. An open-ended question was also included to provide participants an opportunity to discuss their experiences.

Data Analysis

Analysis of the data was conducted through SPSS version 27. Descriptive data were analyzed to provide an overall review of the participants to include age, gender, ethnicity, volunteer or paid status, years of service, and role in the department (firefighter, EMT, or both). T-tests were conducted to examine differences between groups.

Results

The survey was distributed to five volunteer fire departments and two paid fire departments. The total number of surveys distributed was 151. The total number of responses was 58. After adjusting for incomplete surveys and inclusion criteria 48 total responses were used for data analysis. Out of the total 48 responses, 11 identified as female (22%) and 37 (78%) identified as male. The age of the respondents varied, with the largest portion in the 26-35 age range (29%) and the 36-45 age range (27%). The majority of the respondents identified as white (90%). Other information provided represents key demographics of the respondents that are variables of the descriptive analysis and can be found in Table 1. The variables relate to the role the respondents have in the fire department, if they are part of a volunteer or paid department, and how many years they have served in any capacity as a first responder at a fire department. The role of many of the respondents was both firefighter and EMT (60%). More respondents identified as volunteers at their fire department (56%). About half of the respondents identified themselves as having been part of a fire department for 11 or more years (48%).

Table 1

Demographics of the Survey Population

Characteristics	Frequency (*n*)	Percentage
Gender		
Male	37	77.1
Female	11	22.9
Age		
18-25	8	16.7
26-35	14	29.2

36-45	13	27.1
46-55	5	10.4
56 or older	8	16.7
Race/Ethnicity		
White	43	89.6
American Indian or Alaska Native	1	2.1
Native Hawaiian or Pacific Islander	1	2.1
Hispanic or Latino	3	6.3
Role in the Department		
Firefighter	16	33.3
Emergency Medical Technician (EMT)-any level of licensure	3	6.3
Both Firefighter and EMT	29	60.4
Paid Status		
Volunteer	27	56.3
Paid, full-time	21	43.8
Years of Service		
1-5 years	16	33.3
6-10 years	9	18.8
11 years or more	23	47.9

Pandemic Preparation

To assess respondents' reports of adequate preparation for responding during a global pandemic, questions addressed prior training for a pandemic, current training for a pandemic,

adequate personal protective equipment (PPE), and feeling prepared to respond. The following questions were nominal, where 1 represented “yes” and 2 represented “no.” Response for prior pandemic training was 31.8% yes and 68.8% no. Responses for current pandemic training were 75% yes and 25% no. Responses for feeling prepared to respond to calls safely were 85.4% yes and 14.9% no. A question was asked about adequate PPE. The response was 81.3% yes, 12.5% no, and 6.3% don’t know.

Preparation and Mental Health Indicators

To address the question presented in the study, t-tests were run to determine if there were any differences between those who reported they felt prepared to safely respond to an emergency call during the pandemic and those who were not, and mental health indicators. Questions from the PCL-5 asked if participants felt the following within the last 30 days (from the date they completed the survey): negative feelings, loss of interest in activities, feeling distant or cut off from others, trouble feeling positive, increased irritability or anger, difficulty concentrating, and difficulty falling or staying asleep. Respondents rated their feelings on a five-point Likert scale with the following responses: “not at all” (1), “a little bit” (2), “moderately” (3), “quite a bit” (4), and “extremely” (5). As outlined in Table 2, p values for each of the questions from the PCL-5 were greater than .05 ($p>.05$), indicating outcomes for those who felt prepared to safely respond to an emergency call during the current pandemic yielded no statistical significance among any of the mental health indicators on the PCL-5 as compared to those who did not. Table 2 provides the detailed overview of the t-test.

Table 2

T-test Results for Safe Response to an Emergency Call and Mental Health Indicators

PCL-5	Prepared		Not Prepared		*p*
	M	SD	M	SD	
Negative Feelings	1.78	1.013	2.29	1.380	.253
Loss of Interest	1.68	.960	2.00	1.414	.456
Distant or Cut Off	2.34	1.407	2.00	1.528	.560
Trouble with Positive Feelings	1.54	.925	1.86	1.464	.442
Irritable or Angry	1.85	1.085	2.00	1.414	.754
Difficulty Concentrating	1.95	.986	2.14	1.464	.660
Difficulty Sleeping	2.29	1.289	2.00	1.414	.586

Note. Mean and standard deviation is reported for those who felt prepared to safely respond to an emergency call and those who did not. The Levene's Test for Equal Variance was greater than .05 in all questions of the PCL-5, indicating that there was no significance, assuming the two variances are approximately equal.

Volunteer and Paid Full-Time Responders

Descriptive analysis indicated that more paid full-time responders received current pandemic training then those who identified as volunteer responders. Since the literature review indicated gaps in research on volunteer first responders, additional t-tests were conducted to explore if there was a statistically significant difference between volunteer and paid full-time responders and the outcome of responses for the PCL-5. Respondents rated their feelings on a five-point Likert scale with the following responses: "not at all" (1), "a little bit" (2), "moderately" (3), "quite a bit" (4), and "extremely" (5). As outlined in Table 3, p values indicate

that there is no statistical significance between volunteer and paid full-time responders in any of the mental health indicators. In a comparison of means between the two groups, volunteer responders had higher averages in all of the PCL-5 questions other than "feeling more irritable or angry" and "difficulty falling or staying asleep."

Table 3

T-test Results for Volunteer and Paid Groups and Mental Health Indicators

PCL-5	Volunteer		Paid		*p*
	M	SD	M	SD	
Negative Feelings	2.07	1.207	1.57	.811	.108
Loss of Interest	1.74	1.130	1.71	.902	.931
Distant or Cut Off*	2.48	1.649	2.05	1.024	.270
Trouble with Positive Feelings	1.67	1.038	1.48	.981	.521
Irritable or Angry	1.70	1.031	2.10	1.221	.235
Difficulty Concentrating	2.00	1.131	1.95	.973	.879
Difficulty Sleeping	2.15	1.292	2.38	1.322	.543

Note. * Reflects Levene's test was significant; therefore, equal variances were not assumed for the *p* value.

Discussion

Findings in this descriptive study provided an overview of both volunteer and paid responders in a small geographical area. More participants indicated that they received pandemic training since the COVID-19 pandemic started as opposed to those who received pandemic training prior to the current pandemic. Most respondents felt prepared to respond to the pandemic with adequate PPE at their disposal. Survey respondents reported responses to mental-

health related stressors as positive overall. Key stressors reported by participants centered on feeling cut off from others and difficulty sleeping. T-tests indicated no statistical significance between those who did or did not feel prepared to take emergency calls during a pandemic and the mental health indicators on the PCL-5. Relationships between volunteer and paid full-time responders in their responses to the mental health indicators also showed no statistical differences between the two groups.

More men were represented in this sample than women and more identified as Caucasian than the other racial and ethnic identification categories provided. The racial demographics were representative of the surveyed geographical area (U.S. Census Bureau, 2020). Participants were equally representative of volunteer and paid fire departments. More of them identified as both firefighters and EMTs, which is typical for those in rural fire departments. The age reported by participants were primarily in the 18-45-year-old range.

The EMS Infectious Disease Playbook (2017) provides guidance for departments on preparing for a pandemic. Details are provided for training, including precautions for any type of transmission. However, roughly two-thirds of participants in the survey indicated they did not have training prior to the outbreak of COVID-19. Since the outbreak of COVID-19, the number increased significantly; three-fourths of participants reported they have received pandemic training. This may explain why the rates of feeling prepared were higher than those who did not feel prepared.

Mental health stress was assessed through rating questions from the PCL-5 scale. Although the literature indicated that volunteer rural first responders may be prone to higher levels of stress (Haugen et al., 2017; Stanley et al., 2017; Wagner & O'Neill, 2012), results among all questions indicated half of the sample reported no major stress within the last 30 days

prior to taking the survey. The highest responses to “not at all” were regarding the experience of negative feelings and “trouble feeling positive.” The items that were reported as “moderately,” “extremely,” and “quite a bit” were “difficulty concentrating,” “irritability or anger,” “feeling distant or cut off,” and “difficulty sleeping,” with the latter two being the highest reported.

Feeling distant or cut off could be indicative of the public stay at home order that was in place at the time of the survey for the state of New Mexico.

One aspect of this study was to explore if there was a significant relationship between the preparation of rural first responders and potential mental health impact of the COVID-19 pandemic. Results indicated no statistically significant differences in areas of the PCL-5 between those who felt they could respond safely and those who didn’t. This is interesting to note, as literature indicates that first responders (such as EMTs) are at highest risk of experiencing mental health stress (Benedek et al., 2007; Bryant & Harvey, 1996; Kleim & Westphal, 2011; Milligan-Saville et al., 2018). In relation to the pandemic, studies that have already been conducted in China indicated front line workers have been experiencing higher levels of mental health stress (Lai et al., 2020).

Since most participants who reported receiving current training for the pandemic were from paid fire departments, t-tests were run to determine if there were any statistically significant comparisons between volunteer and paid first responders in mental health indicators. Overall, there were no statistically significant differences between the two groups. Comparisons between the mean values of the PCL-5 questions between the two groups had higher mean averages for volunteer responders than paid full-time responders in all but two areas (feelings of irritability or anger and difficulty falling or staying asleep).

It is important to note that current training for a pandemic is not the only explanatory factor for higher mean averages on the PCL-5 for volunteer first responders. Other external factors such as extensive sense of duty, competency concerns, knowing the patient, loyalty to the community, and balancing responsibilities with on-call duties could increase mental health stressors for volunteer first responders (Folwell & Kauer, 2018; Wagner & O'Neill, 2012). There are also additional factors that contribute to the strengths and limitations of the study.

Strengths and Limitations of Findings

The survey was an exploratory survey providing a look at a specific rural region with its unique cultural values. The survey was also conducted during a global pandemic many Americans had not experienced before. Those factors provided challenges but also a unique perspective of real-time experiences of rural first responders. Global pandemics have occurred in recent history, such as H1N1 and SARS, but they have not had the economic and emotional impact of COVID-19. The impact provided some limitations as well as some strengths to this study.

One strength of the study was that real-time responses were provided rather than having participants respond after the pandemic had passed. The study allowed the investigator to link participants' self-reported current mental health to how prepared they were to respond in the middle of a pandemic. Since studies on rural fire departments' responses to pandemics, especially the COVID pandemic, are minimal, this provides some important real-time data to use in consideration for the current pandemic and global pandemics in the future.

The ability to use technology to safely gather data can be considered both a strength and a limitation in this study. The initial plan to present the study and recruit participants was face-to-face during monthly meetings at each of the departments identified in the study. Face-to-face

communications and relationships are important to those in rural communities (Waltman, 2010). However, due to the pandemic and temporary discontinuation of face-to-face research, all communication had to be done through phone and electronic communication. Zoom meetings were not an option due to inadequate internet capabilities at some of the stations. However, use of technology allowed the investigator to safely conduct the study while not putting any first responders at risk.

A limitation of the study was the response rate of the study. Three of the volunteer fire departments were not responsive to inquiries to participate in the survey. Factors that may have contributed to the response rate were that the current pandemic caused the first responders' attention to be focused elsewhere, limited accessibility to technology for some of the members in volunteer departments, and the disconnect mentioned previously by not presenting to the potential participants in person.

Other limitations for the study can also be applied in connection with the global pandemic. According to the New Mexico Department of Health, initial stay-at-home orders were given on March 24, 2020 when cases started to rise in the United States. Case rates and hospitalizations went up in May but were trending down and maintaining during the time the survey was open. On the eastern side of New Mexico, rates were low in comparison to other areas of New Mexico. Although there was a state-wide health order in place and state-wide protocol for employment and businesses operating, case numbers were low in comparison to the higher population centers. This could be a factor in how the first responders viewed the level of crisis in their area. However, case numbers have risen significantly since the close of the survey, which if conducted now, could result in very different outcomes on the mental health questions.

Implications

This study has potential implications for those working in rural communities in a variety of capacities, including social workers. Mental health providers in rural communities will be working with this population of first responders. Understanding their experiences and the impact of a pandemic on their mental health can help the providers anticipate potential coping mechanisms for this population. This study also provides an understanding of the mental health provider to anticipate potential needs and potentially guide a worker in conducting groups within departments to address concerns of working during a pandemic.

Another potential impact of this study is to aid rural fire departments as they look to the future of managing a global health pandemic. The study indicated that minimal training and preparation occurred prior to the outbreak of COVID-19. Preparation ahead of time can alleviate stress that will be present once an outbreak occurs. Departments can place more focus within their ongoing training schedule on how to respond to a pandemic. Data addressing the need for training and PPE can also allow for rural departments to advocate for funding on a state level for these services and equipment.

Implications for Research

The exploratory study provides many implications for future research with rural first responders. The lack of studies completed on rural first responders and the impact of a pandemic is evident in the literature conducted for this study. This study offered a look at the mental health state and preparation during the beginning of the pandemic before numbers in the area increased. Conducting the study again, months into the pandemic, could allow for comparisons between the initial response and the ongoing response. As the pandemic continues, stressors on the first responders can continue to compound and increase the risk of trauma in the first responders. The comparison of the initial study and future studies can aid in the understanding of where the

mental health stressors lie and how mental health providers and rural departments can support the first responders going forward.

The open-ended question in the study asked participants to add anything else in relation to being a rural first responder during a global pandemic. Participants indicated they were "also very tired" and "elevated stress level but not at a level that cannot be dealt with using the tools available." One answer that provides another avenue for research stated,

> There is the constant worry of a confirmed exposure that would require quarantine for two weeks that would have to be spent away from my family and work. The result of which would not be only mental/emotional stress but as the main source of income for the family, it would also cause a financial stress.

This response opens the consideration of a qualitative study to explore the financial impact of the pandemic on first responders as an additional layer of mental stress for the worker.

Conclusion

As the COVID-19 pandemic continues to take a toll on first responders as well as all frontline workers, continued research will help to inform how mental health providers can respond to workers' needs. This study indicates that more research can be done in this area as the pandemic continues and stress and economic factors evolve. More specific attention needs to be paid towards mental health outcomes as well as the economic toll it can take on families who are at high risk of exposure to the virus. This exploratory study set the stage for future qualitative and quantitative research as the virus evolves and impacts all areas of workers' lives.

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Working with Rural Volunteer First Responders in a Culturally Informed Manner

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Abstract

Although volunteer first responders make up a large portion of first responders (70%), minimal research has been conducted on this population. Volunteer first responders in rural communities are more susceptible to trauma due to strong ties to the community, the chance of responding to someone personally known to them, and limited resources and training which can create an environment for mental health concerns. In addition, rural communities and culture creates stigma and barriers to first responders who need mental health services. This presentation addresses the gap in research literature for this population specifically in the United States, the barriers to receiving services, and address culturally sensitive ways to aid this population in receiving help including future possible work to be done in this area for mental health professionals.

Keywords: first responder, volunteer first responder, trauma-informed perspective, rural culture

Introduction

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There has been research on the effects of trauma on first responders; however, much of the research is focused on paid first responders rather than those who serve in rural communities as volunteers (Milligan-Saville et al., 2018). In rural communities first responders are firefighters and emergency medical technicians (EMTs). According to the U.S. census, rural areas are defined as those that are outside of "urbanized areas" (50,000 people or more) and "urban clusters" (at least 2,500 with 1,000 people per square mile). This leaves much of the U.S. considered as rural (Ratcliffe et al., 2016). In the U.S., 70% of first responders are volunteers. Many volunteers serve in communities that are considered rural, and they serve about one-third of the overall population (Folwell & Kauer, 2018). First responders experience high levels of trauma exposure and stress repeatedly within their work. The cultural context of rural volunteer first responders adds another layer to these experiences that those in urban settings may not encounter. Studies have shown that volunteer first responders have a high sense of loyalty to their community (Folwell & Kauer, 2018; Roberts et al., 2014). In addition to the rural aspect of trauma experiences, these workers volunteer their time, which does not lend to financial compensation commensurate to the trauma they experience. Other factors unique to the rural community are the possibility of personal ties to victims (Wagner & O'Neill, 2012). Loyalty to the community, connection to the community and limited resources can have significant impacts on how volunteer first responders process trauma experiences within such tightly connected communities.

The trauma-informed perspective is a newer concept that was first applied in mental health and substance abuse services and then has been adopted by other disciplines (Goodman et al., 2016). A trauma-informed approach assumes that trauma is not just one single event but rather an experience that defines the core of a person's identity (Harris & Fallot, 2001). There are two main concepts in a trauma-informed approach: anyone might be a trauma survivor, and workers need to understand trauma to help with recovery (Goodman et al., 2016). Characteristics of this approach are being respectful, holistic, strengths-based, providing a universal screening for history, training for providers, and educating clients on "triggers" (Harris & Fallot, 2001). Along with ecological theory, the trauma-informed perspective provides a lens that will inform work with first responders and understanding of their trauma experiences.

Based on current research being conducted for the presenter's dissertation, the poster will review the literature highlighting the benefits and challenges of being a first responder in a rural community, the barriers to receiving mental health services (some of which are steeped within the culture of first responders), and ways to provide services to this population using a trauma-informed approach.

Presentation Script

Below is the presentation script used for this virtual poster presentation:

Working with Volunteer First Responders in a Culturally Informed Manner

Welcome! My name is Carolyn Tollett and I am the Field Director at Eastern New Mexico University in the small, rural community of Portales, NM. I am also a doctoral candidate at The University of St. Thomas. My poster presentation today is based on my current dissertation research on the experiences of rural fire departments and the mental health impact of these experiences. This poster is based off a conceptual article that I have written on integrating

the trauma-informed approach and values with rural culture to reach volunteer emergency medical technicians (EMT's) and firefighters in rural communities.

First, it is important to define first responders for the purposes of this presentation. Prati and Pirtrantoni define first responders as individuals who arrive at the early stages of an accident or crisis and are responsible for the protection and preservation of life and property. Studies have shown that exposure to traumatic situations is high in this population and can result in potential mental health outcomes. In rural volunteer fire departments first responders are considered EMT's and firefighters. In the United States 70% of first responders are volunteers and serve in rural communities. These rural communities make up over one-third of the U.S. population.

What I have found in the literature has indicated a need to study this topic further. Most studies on first responders in the U.S. focus on paid first responders. The majority of studies on volunteer first responders took place in the United Kingdom, Australia, and Canada. All of the studies indicated that there was a high incidence of Post-Traumatic Stress Disorder (PTSD) among first responders overall and the rates of this disorder were higher in volunteer first responders. Stressors that are unique to volunteer first responders that could contribute to this are listed on the poster. An alarming statistic from the literature I thought was important to highlight was the incidence of suicide plans, ideations, and attempts among all first responders. This chart shows the marked difference between first responder's rates and the rates of the general population.

To address ways to work with this unique population in rural communities I first looked at the barriers commonly encountered and divided it into the actual barriers and the potential stigma placed on these individuals. Tangible barriers in rural communities were accessibility to affordable mental health, less training and support, not knowing where to look for help, and

scheduling appointments. Some of the stigma faced was confidentiality, the overall stigma towards receiving help found within first responders, and the culture imbedded within rural communities. Within rural culture aspects that lend towards the barriers are self-reliance, reliance on tradition, resistance to change, and how the mental health practitioner is viewed within the community. I then looked at the trauma-informed values that are central to trauma-informed work with individuals. These values are power and control, authority and responsibility, goals, and language.

To combine trauma-informed values and rural culture it is important to understand aspects to rural culture that could be used as avenues to reaching the population. These are the value of helping neighbors, connections within the community, and respect for institutions such as churches, schools, and community centers. Ways to reach those in rural communities combining these two aspects would be to address the stigma and the barriers to receiving help. To address the stigma I recommend utilizing spaces that are common to the community rather than a mental health office which allows for confidentiality. Adjusting the language to be more conducive to language used within the community can also reduce the overall stigma. Allowing the client to explore community supports and coping mechanisms helps the individual to have power and control within the process. The practitioner should also be involved within the community so that they are considered part of the community. Ways to address the barriers to receiving help could be to allow for more walk-ins to take away the barriers to scheduling appointments, identify community supports such as churches to reduce the affordability of services, provide information to the departments so potential clients know that there is help, use the community spaces since they are comfortable and known to the client, and get the buy-in of the need for services from the fire and EMS chiefs.

Although this may not be all inclusive, utilizing this approach would be a start to breaking down the barriers for those in rural communities to receive the help needed.

Working With Volunteer First Responders in a Culturally Informed Manner

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Introduction

First responders: Individuals who arrive at the early stages of an accident or crisis and are responsible for the protection and preservation of life and property (Prati & Pietrantoni, 2010). In rural volunteer fire departments, first responders are firefighters and emergency medical technicians (EMTs).

Statistics: Between 60-90% of first responders have witnessed incidents with multiple casualties, 61-84% have seen the death of a child, and 46-84% have witnessed the death of a person that is in their care (Regambal et al., 2015). These are all circumstances that could lead to potential mental health outcomes.

Prevalence: In the U.S., 70% of first responders are volunteers. Many volunteers serve in communities that are considered rural, serving about one-third of the overall population (Folwell & Kauer, 2018).

Current Literature

First Responders
Literature on first responders in the United States primarily focuses on paid first responders. Research on rural volunteer first responders has been conducted primarily in Australia, the United Kingdom, and Canada.

Mental Health
Studies show a high incidence of Post-Traumatic Stress Disorder (PTSD) among first responders. There is an alarming link between PTSD and suicide rates. Rates are higher in volunteer versus paid first responders. (Figure 1)

Rural Responders
Stressors:
- Types of calls
- Extensive sense of duty
- Competency concerns
- Knowing the patient
- On-call most of the time
- High sense of loyalty to the community

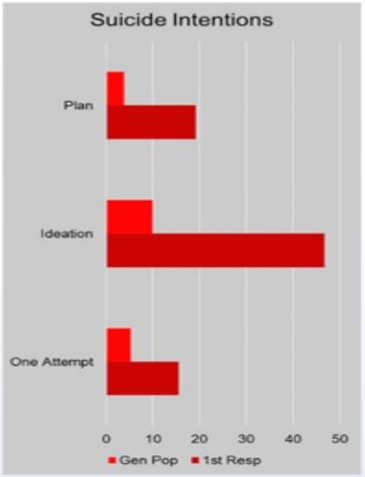

Figure 1. Average from study in percentages, conducted by Stanley et al (2015)

Barriers to Receiving Mental Health Services

Barriers	Stigma
Less access to affordable mental health	Confidentiality of services
Less training & organizational support	Overall stigma of receiving help
Not knowing where to get help	Rural culture
Scheduling appointments	

Figure 3. Barriers described in studies by Haugen et al (2017) and Stanley et al (2016)

Trauma-Informed Values

Power and Control
- Given to the client
- Focus on empowerment, strengths, and skill building
- Helps to develop coping skills

Authority and Responsibility
- Given to client
- Shift perspective to what they want to see differently

Goals
- Focused on creating growth and change and not just stabilizing behaviors
- Clients identify community resources to aid in accomplishing goals

Language
- Reduces stigma
  - "treatment plan" to "plan of action"
  - "assessment" to "personal history"
- Instill hope
  - "if" to "when" and "why" to "how"

Rural Culture

Aspects that are Barriers to Receiving Help
- Self-reliance
- Reliance on tradition
- Resistance to change
- How involved practitioner is in the community

Aspects that can be Used as Positives
- Helping neighbors
- Connections to the community
- Respect for institutions such as churches and schools and community centers

Discussion

Addressing the stigma:
- Utilize spaces common to the community
- Adjust language use
- Allow client to explore own community supports and coping mechanisms
- Practitioner should involve self in the community

Addressing the barriers:
- Allow for walk-ins
- Identify community supports to address costs
- Provide information to departments
- Utilize spaces common to the community
- Get buy-in of fire and EMS chiefs

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