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Emergency Preparedness Experiences by Emergency Managers in Rural Hospitals of the Pacific Northwest

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Abstract

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by

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MN, University of Washington, 2012

BSN, University of Washington, 2008

Project Submitted in Partial

of the Requirements for the Degree of

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Abstract

This qualitative research focused on the emergency preparedness (EP) rule implementation in rural hospitals in the Pacific Northwest. A new law has been implemented that requires hospitals to comply with Medicaid and Medicare law. Learning about the implementation and preparedness process could help rural regions in the Pacific Northwest better prepare for emergencies and comply with the law. The purpose of the study was to gain increased understanding of how the new EP rule of 2016 impacts rural hospitals' preparedness in the Pacific Northwest. The theoretical framework was complexity theory. This study focused on the lived experience of emergency managers who have been working on the implementation of the new EP rule in rural hospitals in the Pacific Northwest. Using a phenomenological approach, 8 in-depth phone and face - to - face interviews were conducted. Selection criteria included working as emergency preparedness managers in rural hospitals in the Pacific Northwest. The verbatim transcripts of interviews were analyzed by first cycle analysis, used concept and descriptive coding to find common themes. The findings of the study included that small rural hospitals working on EP need more support and help that include financial needs, resources, staff preparedness improved communication and more exercises local communities including every individual living in the community are also responsible for their own preparedness. This inquiry could help understand the effects of the new EP rule for rural hospitals; it could identify gaps in research that could support rural hospitals and surrounding communities; it could affect positive social change by applying the research evidence to additional health care settings.

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Dedication

To all of the people working in EP that support the need of many in case of a disaster hits. Truly thank you for all you do. Also, to my family, my grandmother Nagy Borbala who always wanted me to get a doctorate education. To my mother Pecsvari Borbala who always been supportive of me studying. My spouse Maggie and my children Andras and Andrea who supported me throughout this journey and encouraged me during difficult times. My sisters who checked in with me time to time how things are going. My friends who kept encouraging me to keep on going. Thank you, could have not done it without you.

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Chapter 1: Introduction to the Study

Introduction

In the past 10 years the United States experienced devastating disasters including tornadoes, influenza pandemic, floods, fires, an anthrax attack, terrorist attacks, disease outbreaks such as enterovirus and Ebola (Office of the Federal Register, 2016). VanVactor (2016) and Ripoll et al. (2015) discussed data between 2010 to 2014 including over 300 major disasters, including 330 natural disasters globally in 2013, 60 emergencies, and 240 fire management declarations. Disaster declarations are due to earthquakes, extreme temperatures, flooding, fires and wild fires, hurricanes and tropical storms, severe storms, snow storms, tornadoes, tsunamis, and other events (VanVactor, 2016). Current hazards in Oregon include flooding, landslides, bioterrorism, drought, earthquakes, extreme heat, tsunamis, wildfires, windstorms, and winter storms (Oregon Health Authority, n.d.). To prepare the country for natural and man-made disasters, in the year in 2016 a new Emergency Preparedness (EP) Rule became law for health care facilities in the United States (Office of the Federal Register 2016). This EP rule is in effect today. Data from global disasters show that EP is necessary to prevent or decrease the health impact including death and disability due to future catastrophic events (Lucchini et al., 2017). Savoia et al. (2017), in their systematic literature review looking at 156 studies in public health EP from 2009-2015, found that there is a gap in the literature regarding information-sharing between organizations as well as communication with the public, including creating information for diverse audiences. EP is not practiced the same way in every county, and this creates dissimilar levels of preparedness to

respond to an emergency. Bin Shalhoub, Khan and Alaska (2017) found that hospitals have different levels of readiness, and there is a need for improvement in EP education and training. Looking at the progress in public health EP from 2001-2016, Murthy, Molinari, LeBlanc, Vagi, and Avchen (2017) found that 20% of jurisdictions have difficulty coordinating public health agencies and the healthcare system because of barriers to training, financial sustainability, and lack of or incomplete EP plans. Valesky et al. (2013) found that hospitals underreport their surge capacity, indicating that the available beds reported and the beds available show great discrepancy and could create inadequate knowledge during a disaster related to surge capacity. Zusman and Marghella (2013) found that many hospitals are not prepared for disasters and only about one third of hospitals were planning to upgrade their disaster preparedness infrastructure. Little is known about how barriers to training, financial sustainability, and completion of EP plans affect rural coastal communities in the Pacific Northwest region.

In this study, qualitative interviews were conducted with rural healthcare professionals in the Pacific Northwest regarding their experiences and perceptions of the implementation of the EP Rule. Topics included communication, information-sharing, education, training, practice, metrics development, criteria development, and barriers. The societal impact of this study could include increased direct social impact, including communication and collaboration between the EP managers in the Pacific Northwest region (Bornmann, 2013). Additional social change implications could include policy and protocol changes; changes in current training and education related to emergency preparedness; increased knowledge of EP coordinators and other stakeholders based on

research findings on how other hospitals in the region address emergency preparedness. Sections of Chapter 1 cover the following topics: background information to the study, the purpose of the study, research questions, brief review of framework, definition of terms, assumptions, limitations, scope of the study, significance of the study, implications for social change and a summary.

Background

Oregon Health Authority (n.d.a) and Ramsey, Hamilton and Miller, (2017) explained that the new EP rule affects 17 different types of health care facilities in Oregon. The facilities must implement the new EP rule by 2018, otherwise they would lose federal dollars, which can be up to 30% of their income from Medicaid and Medicare and their contract could be terminated. Cagliuso (2014) and Cagliuso (2014a) provided information on the EP in hospitals and stakeholders' views on preparedness and found the following emerging themes: the necessity for funding, the essential elements of collaboration, communication, coordination. In role of the government the study participants had mixed views and the need for hospital leadership buy-in for success was identified concludes that future studies are needed for additional support in EP. Seale (2010), in the narrative description after Hurricanes Rita and Ike, found that additional staff preparation and planning was needed for successful EP. This article highlighted previous gaps in preparedness and support needed for future EP implementation. Taschner, Nannini, Laccetti and Greene (2017) examined EP policy and practice in Massachusetts hospitals and found these emerging themes: standardized training needs, importance of communication and collaboration, effects of creating financial burden for

hospitals. This study by Taschner et al. (2017) showed the need for future research and identifies funding and training needs for hospitals with new EP rules and policies that require implementation (Laccetti & Greene, 2017). A study looking at EP for nurses found that nurses had difficulties with EP terms and activities, ethical issues, and access to resources (Hodge, Miller, & Dilts Skaggs, 2017). This study outlined the need for additional support and education for nurses in a rural hospital to prepare for disasters. Alzahrani and Kyratsis (2017) examined nursing preparedness in hospitals and found training variances, including the lack of awareness and knowledge of emergency disaster preparedness plans among nurses. The need was identified for communication outreach, education, and skill development; the study showed the need between consistent EP training and education in hospital EP. Markiewicz et al. (2010) the study results found a positive effect on communication, disease surveillance, EP and response with an epidemiologist present; recommendation for similar programs in other communities for EP indicating a potential solution for communication between hospitals and public health agencies is having an epidemiologist on staff. Paganini et al. (2016) examined EP in Italy and found that emergency room physicians lack knowledge on what to do during a disaster; education and training needs were identified. Italy has a policy for hospital preparedness that needs to be followed like the EP rule in the U.S., yet the study found inadequate disaster preparedness in the hospital's ED department—an indication of a potential gap between EP rule and implementation (Paganini et al. 2016). This research study planned to explore how the new EP law affecting hospital preparedness in the Pacific Northwest could contribute to the learning of EP in rural areas. The research

study was needed to explore the effects of the EP rule in the rural Pacific Northwest and increase the understanding of hospital EP by learning from the experiences of EP managers.

Problem Statement

The United States has been through devastating disasters (Federal Register, 2016). In 2016, a new EP Rule went into effect and is still in effect today (Federal Register, 2016). EP is essential to prevent death and disability and to decrease adverse health outcomes in disasters (Lucchini et al. 2017). Savoia et al. (2017) found a gap in the literature related to communication breakdowns. Bin, Shalhoub, Khan and Alaska (2017) found inconsistencies between levels of readiness, and a need for additional EP training. Murthy, Molinari, LeBlanc, Vagi and Avchen (2017) found coordinating problems in public health agencies and healthcare systems and identified the need for additional training, financial sustainability, and additional support to complete EP plans. Valesky et al. (2013) found underreporting in surge capacity creating a discrepancy during a disaster. Zusman and Marghella (2013) found that inadequate preparedness for disasters included the lack of knowledge on how barriers to training, financial sustainability, and completion of EP plans affect rural coastal communities in the Pacific Northwest region. The gaps in the literature included the areas of disaster education, communication barriers, including patterns and effectiveness (Savoia et al. 2017; Paganini et al. 2016; Alim et al. 2015; Hammad et al. 2017; Woods, 2016; Fagbuyi et al. 2016; Seale, 2010; Shipman et al. 2016; Palttala et al. 2012). Gaps also include disaster planning, preparation, development, training and education for staff, preparedness in the ED

department (Savoia et al. 2017; Paganini et al. 2016; Alim et al. 2015; Hammad et al. 2017; Woods, 2016; Fagbuyi et al. 2016; Seale, 2010; Shipman et al. 2016; Palttala et al. 2012). Additional gaps included preparedness for children, knowledge, role definition for nurses in a disaster, and long-term evaluation of disaster training effectiveness (Savoia et al. 2017; Paganini et al. 2016; Alim et al. 2015; Hammad et al. 2017; Woods, 2016; Fagbuyi et al. 2016; Seale, 2010; Shipman et al. 2016; Palttala et al. 2012).

Purpose

The purpose of this qualitative research study was to increase the understanding of the new EP rule and its implications in rural hospitals' preparedness in the Pacific Northwest, including identification of common themes emerging amongst health care facility EP personal. The intent of the study was to explore the lived experiences of the EP managers in the rural Pacific Northwest. The phenomenon of interest was to learn about the lived experiences of EP managers in the rural Pacific Northwest, and how those experiences relate to the EP rule implementation and to the EP process. The identified themes can help identify potential barriers, and can create supportive recommendations for health care facilities, including hospitals that are undergoing the implementation and maintenance process of the EP rule.

Research Questions

The following two research questions guided the study:

RQ 1. How will the lived experiences of the emergency preparation for emergency managers that work in rural hospitals in the Pacific Northwest influence the implementation of the new EP rule for the area?

RQ 2. What can be learned from the lived experiences of EP managers in the Pacific Northwest regarding the EP process?

Framework

Complexity theory looks at individual parts of any system and how they work together (Thrift, 1999). The theory works with multiple level systems, addresses the complexity of interactions of systems, systems' parts; unpredictability within these systems. The theory also works for community health systems and organizations such as hospitals (Hilhorst, 2003; Paley & Eva, 2011; Thrift, 1999).

EP requires multiple systems to work together. A complex system can be unpredictable in its behavior, just like disasters and emergencies, such as earthquakes, depending on the current situation that arises (Comfort, 1995; Hilhorst, 2003; Plsek & Greenhalgh, 2001). Complexity theory would work well for looking at EP in the hospital setting and how the preparedness rule implementation affects the Pacific Northwest community. Reed et al. (2018) had developed a SHIFT-evidence framework based on complexity theory in healthcare systems including three strategic principles with 12 simple rules. The principles of the framework will be explained in more detail in Chapter 2 and they include elements to act scientifically and pragmatically, embrace complexity, and to engage and empower (Reed et al. 2018). Reed et al. (2018) described the importance of complex systems thinking in understanding the experiences people have works well together with the planned research of EP managers and their experiences because hospitals and EP are complex systems. More detailed explanation of the framework is outlined in Chapter 2.

Research Design

The research design for this study was a qualitative; it used a phenomenological approach that focuses on the lived experiences of individuals, in this case, EP managers. Phenomenology looks at the specific phenomena of interest, in this case of the EP rule, its implementation, and the lived experience of the EP managers (Patton, 2015; Ravitch & Carl, 2016). The goal of the study was to explore the experiences of the EP managers and the phenomenological approach fits this exploration well (Patton, 2015; Ravitch & Carl, 2016). The phenomenological approach is a research philosophy and a research method focusing on the lived experiences of the individual (Patton, 2015; Rudestam & Newton, 2015; Ravitch & Carl, 2016). Phenomenology seeks a deep understanding of the phenomena and getting in depth interviews from participants is a way to get at those experiences (Patton, 2015; Rudestam & Newton, 2015; Ravitch & Carl, 2016). The data were collected through in-depth interviews and observation of participants through the interview process (Ravitch & Carl, 2016).

To follow the phenomenological approach for this study, I developed interview questions with prompts to stimulate in-depth responses from participants (Patton, 2015). The interviews were recorded and transcribed verbatim (Ravitch & Carl, 2016). The transcribed interviews were checked with participants for accuracy. The first step in data analysis was looking for emerging codes, categories and themes from the data (Ravitch & Carl, 2016). Data analysis included a first cycle analysis that helped identify similarities in the context from the transcripts; the next step was to begin coding the data, included concept coding and descriptive coding (Laureate Education, 2016a). The participants

were selected based on their lived experience of the new EP rule implementation; the protocol for the study included only participants with first-hand experiences (Patton, 2015). The procedures followed a phenomenological approach throughout the study and focused on the experiences of the EP managers who participated in the study (Patton, 2015).

Sources of data for this research included in-person interviews that were open ended with key informants; EP managers working in rural hospitals, where the new EP rule was being implemented in the Pacific Northwest (Rudestam & Newton, 2015). Qualitative data included words and ideas, such as transcript notes from interviews, records, and documents related to EP rule (Rudestam & Newton, 2015). Additionally, observations throughout the interview including hand gestures, facial expressions, and pauses could provide additional insight into the emotional state of the participant. Data collection was an iterative process (Ravitch & Carl, 2016). Fieldwork and data collection memos, including researcher reflections, were additional elements included in the data collection (Ravitch & Carl, 2016).

Definitions of terms

Complexity: Complexity and complex thinking related to disasters refers to the multipart systems and sub systems between nature and science (Hilhorst, 2003).

Complexity Theory: Interactions between society and nature are unpredictable related to societal changes and chain of events (Hilhorst, 2003).

Emergency Preparedness: A coordinated and continuous process where public health systems, communities, individuals create a well -prepared community, prevent,

respond and recover from public health emergencies (Nelson, Lurie, Wasserman, & Zakowski, 2007).

EP Rule: Centers for Medicare and Medicaid (CMS) EP rule requires 17 different type of organizations to implement certain elements as part of their EP based on their risk assessment (Elko, 2017). Preparedness elements include: emergency plan, policies, procedures, communication plan, training and testing (Elko, 2017).

Disaster: A disruption of a community's ability to function related with its own resources because of losses that can be material, economic, environmental or human (Boyd el al. 2017).

Man-Made Disaster: A disaster that was created by humans including but not limited to conflicts, famine, displacement, terrorism, industrial accidents (IFRC, n.d; Boyd et al. 2017).

Natural Disaster: A disaster created by nature including but not limited to earthquakes, landslides, tsunamis, floods, wild fires, diseases (IFRC, n.d; Boyd et al., 2017).

Humanitarian Emergency: A disaster that is resulting in the need of international support (Boyd et al. 2017).

Lived Experiences: An experience or experiences of an individual who lived through a phenomenon (Creswell, 2014).

Phenomenology: A qualitative research inquiry from psychology and philosophy built on the lived experience of individuals whom experienced the phenomenon being discussed (Creswell, 2014).

Resilience: The ability to bounce back after being stressed and become stronger by learning new skills and investing in future preparedness and recovery (Egli, 2013).

Assumptions of the Study

This study was based on three assumptions. First, that rural EP managers in the Pacific Northwest were willing to provide interviews related to their experiences for this study. Second, that the EP managers were honest with their answers, did not omit relevant information from the questions, and there was no manipulation with the answers. Third, that I was honest, followed research protocol, and represented the meaning the participants want to covey. Assumptions are necessary because if the assumptions are true, they provide a support for the conclusion of the study (Browne & Keeley, 2007).

Limitations of the Study

Limitations of the study include that this study was only looking at rural areas in the Pacific Northwest and each area in the United States can be different based on the availability of hospitals, responders, funding and density. Because of the limited rural hospitals in the Pacific Northwest the study findings may not be applicable to other areas in the United States. Limitations on transferability include that a qualitative research is not meant to be generalizable but to develop statements based on the context explored, in this case EP (Ravitch & Carl, 2016). Limitations of dependability include the requirement for consistency with all data collection, transcribing and coding data (Ravitch & Carl, 2016). Addressing limitations of the study related to dependability was achieved by using qualitative fields notes, using an interview guide, being consistent with data collection, collecting data in person with recordings, being transparent with coding, reflections and

documentation and summaries of codes, possible themes, as well as the research process in general (Ravitch & Carl, 2016). To address limitations of the study related to transferability I transcribed the verbatim interviews, grouped them, created codes, then based on the codes created themes, which enhanced intercoder reliability and validity (Patton, 2015). Personal bias can influence outcome. I remained objective, open, attentive, professional, transcribed interviews verbatim, wrote down personal feelings during the interview process and disclosed my feelings as part of the study (Ravitch & Carl, 2016).

Scope of the Study

The range of the study was limited to the rural Pacific Northwest area of United States. The sample of the study included EP managers who have worked in rural hospitals since the EP rule was implemented. No other participants from EP were considered for this study. The focus of the study was chosen as a result of discussion of need for this type of research in the area with Oregon Health Authority Planning Section Chief and Deputy Director Health Security Preparedness and Response Program, Eric Gebbie (personal communication, December 1, 2017), and by a preliminary literature review.

Significance

This qualitative inquiry aimed to develop a better understanding of the effects of the new EP rule on rural hospitals. Hospitals provide a critical role in EP (Kaji, Koenig, & Lewis, 2007). Understanding what has been working and what barriers arise while implementing and maintaining preparedness helped to fill the gaps in current EP needs of

rural communities in the Pacific Northwest leading to practice and potential protocol and policy change in emergency preparedness. The findings also support EP managers practice in rural areas throughout the United States.

Using this qualitative inquiry to learn about EP in the health care facilities could be reapplied as support and learning for other facilities across the state and country. This study has implications for positive social change by practice: applying the evidence that was found in the research to practice in additional health care settings and identifying potential gaps for future research to support the health care facilities in the Pacific Northwest (Laureate Education, 2015). The study findings and results can be used to inform stakeholders including policymakers, which could result in a change in existing policy and protocols surrounding EP in the Pacific Northwest. Another implication is advocacy: raising awareness about how health care facilities are doing with the new EP rule implementation. Finally, positive social change impact includes the chance that the completed study could provide increased knowledge and support for Pacific Northwest hospitals and communities to be better prepared for emergencies by learning from the experiences of EP managers in the field.

I believe that this study was able to (a) help provide information on the implementation process of EP and highlight areas that work well and areas that need improvement; to (b) support additional rural hospitals in the Pacific Northwest and other rural areas in the United States. The preparedness in rural areas ultimately saving lives.

Positive social change as a potential outcome of the study can be decreasing morbidity and mortality in the Pacific Northwest. Rural areas can be fragile and cut off

from urban areas in the time of disaster and being prepared can help individuals and communities survive an emergency. The intention of this study was to highlight important areas in EP that can help rural hospitals and communities make their process smoother and help to build resiliency in the hospital setting as well as in the community. Learning about the EP mangers experiences highlighted areas that work well in the community, and areas where support is needed. Based on the experiences from the Pacific Northwest, other rural communities could change their decision-making process related to what is working in those communities and how that understanding could be applied to improve EP in their community. Emergencies and disasters are part of everyday life all over the United States. The more hands-on experiences learned, the more individual communities can be prepared and thus recover after a disaster. Additionally, gaps found through this research suggest future phenomenological studies in the area of EP in rural communities.

Summary

The goal of the study was to explore the lived experiences of EP managers related to the EP rule who were working in the rural Pacific Northwest. Currently there is a limited understanding of the lived experience of, and preparedness effects for, EP managers working in a hospital setting. This study sought to highlight the lived experiences, possible gaps and future directions in rural emergency preparedness. Chapter 1 explored the background information to the study, the purpose of the study, research questions, brief review of framework, definition of terms, assumptions, limitations, scope of the study, significance of the study, implications for social change.

Chapter 2 includes an introduction, literature search strategies, a more detailed theoretical framework discussion, a detailed literature review and a conclusion. Chapter 3 provides an introduction, information on the research design, nature of the study with a rationale, participant selection, instrumentation, sources of data, interview questions, research analysis, participant's rights, and a chapter summary. Chapter 4 will include an introduction, information on the pilot study conducted, setting, demographics, data collection, data analysis, trustworthiness, results of the study and a summary. Chapter 5 will include an introduction section, interpretation of findings, limitation of study, recommendations, implications and a conclusion.

Chapter 2: Literature Review

Introduction

The purpose of this qualitative research study was to increase the understanding of the new EP rule and its implications for rural hospital preparedness in the Pacific Northwest, including identification of common themes emerging amongst health care facility EP personal. Regulations from the Federal government require hospitals to prepare for disasters (Levinson, 2014). Review of current literature was essential to understand the impact of EP in rural hospitals and communities. The identified themes helped to recognize potential barriers, create supportive recommendations for health care facilities, including hospitals, that are undergoing the implementation and maintenance process of the EP rule. Emergency and disasters can be underestimated in scale (Cirkovic, Sandberg, & Bostrom, 2010). For example, Landman et al. (2015) described the responses and lessons learned at the Brigham and Women's Hospital in Boston after the Boston Marathon bombing. Findings included needed improvement in workflow, patient naming conventions, information systems, situational awareness, documentation, orders and procedures. The resilience of communities and EP staff, especially in hospitals, is a crucial element for survival during and after a disaster (Charney et al., 2014). There are many articles regarding disasters and EP of hospitals and hospital staff after disasters, including quantitative and qualitative inquires. Currently there is a gap in the literature regarding the EP in Pacific Northwest rural coastal communities (Savoia et al., 2017; Paganini et al., 2016; Alim et al., 2015; Hammad et al., 2017; Woods, 2016;

Fagbuyi et al., 2016; Seale, 2010; Shipman et al., 2016; Palttala et al., 2012). In the literature I found common themes related to EP that will be discussed later in the review. The influencers of EP included hospital preparedness, preparedness of hospital staff, the role of a preparedness coordinator, relevant staff training and education, responsiveness to disasters and communication needs during a disaster (Savoia et al., 2017; Paganini et al., 2016; Alim et al., 2015; Hammad et al., 2017; Woods, 2016; Fagbuyi et al., 2016; Seale, 2010; Shipman et al., 2016; Palttala et al., 2012). Gaps in the current literature have been identified and will be discussed below. Chapter 2 includes an introduction, literature search strategy, a more detailed theoretical framework discussion, a detailed literature review and a conclusion.

Literature Search Strategy

To locate current relevant literature, multiple databases were searched: CINAHL and MEDLINE combined, MEDLINE with full text, Thoreau, ProQuest Central, Walden University dissertations, Walden University Health Sciences and related research, Embase, ScienceDirect, Sage journals, PubMed, Academic Research Complete and Google. Search terms used in the literature review included *emergency preparedness, Federal Emergency Management Agency, disaster response, humanitarian response, disaster response mental health, competencies disaster mental health, hazard response, emergency management, natural disasters, emergency response, communication, role of communication, risk communication, hospital preparedness, disaster preparedness, healthcare system, phenomenology, narrative inquiry, CMS EP rule, earthquakes, Cascadia subduction zone, earthquakes in Pacific Northwest, mass casualty disasters,*

protection of research participants, and *complexity theory framework*. Only current and relevant literature were chosen to be included in the literature review.

Theoretical Considerations – Complexity Theory and Framework

Complexity theory emerges from complex systems and complex thinking (Reed, Howe, Doyle, & Bell, 2018). Complexity theory looks at individual parts of any system and how they work together (Thrift, 1999; Thomson et al., 2016). The theory works with multiple level systems, addresses the complexity of interactions of systems, its parts; unpredictability within these systems; works for community health systems, institutions and organizations like hospitals (Hilhorst, 2003; Paley & Eva, 2011; Thrift, 1999; Thomson et al., 2016; Reed et al., 2018; Long, McDermott, & Meadows, 2018; Brand, Fleming, & Wyatt, 2015). Complexity in the context of disaster and risks related to disaster fits well as disasters and emergencies do not have boundaries, changing in scale and response need, and a disaster in one area of the world can affect other people in other regions (Hilhorst, 2003; Long et al., 2018; VanVactor, 2016). Similar to complexity theory and complex systems thinking EP is complex requires multiple individuals and systems to work together, interact and adapt to what is happening around them and come up with creative solutions in disasters (Byng & Jones, 2004; Plsek & Greenhalgh, 2001; Reed et al., 2018; Long et al., 2018). Local conditions in an emergency can create a very powerful emergent effect, just like in complexity theory the effects would depend on how all parts add together to create a system behavior (Byng & Jones, 2004; Thomson et al., 2016; Brand et al., 2015). A complex system can be unpredictable in its behavior just like

disasters and emergencies, like earthquakes, depending on the situations that arise (Comfort, 1995; Hilhorst, 2003; Plsek & Greenhalgh, 2001; Reed et al., 2018; Long et al., 2018; Brand et al., 2015; Brand et al., 2015). Thomson et al., (2016) describes complexity as a characteristic of a system that looks at relationships and behaviors of a system, how the parts work together and the interactions between the individual parts of the system. Long et al., (2018) describes complexity theory as complex adaptive systems in a health services research with multiple elements including embeddedness, unclear boundaries, distributed control around the system, unpredictability coupled with a nonlinear relation, changes that occur in any scale can change the reaction of the system and adaptability. Reed et al. (2018) describes the importance of complex systems thinking in understanding the experiences people have working well together with the planned research of EP managers and their experiences. Complexity theory asserts that the individual parts of the system work separately but form a response together that creates a system behavior or reaction and this reaction is based on the exchange of information between individuals (Thomson et al., 2016; Reed et al., 2018; Brand et al., 2015). Complexity theory fits the EP system as the system has multiple parts that work separately but form a response together to a disaster or emergency (Thomson et al., 2016; Reed et al., 2018). VanVactor (2016) describes a disaster response as a complex and dynamic environment where there is changes and uncertainty prevails. Each response to a disaster will be different, thus the interacting parts remain changing continuously (VanVactor, 2016). Complexity theory is being used more frequently in health sciences in qualitative studies (Thomson et al., 2016; Long et al., 2018). Reed et al (2018) had

developed a SHIFT -evidence framework based on complexity theory in healthcare systems including three strategic principles with 12 simple rules (Reed et al., 2018):

1. Act scientifically and pragmatically
    - Understand problems and opportunities,
    - Identify, test and iteratively develop potential, solutions,
    - Assess whether improvement is achieved, and capture and share learning,
    - Invest in continual improvement
2. Embrace complexity
    - Understand processes and practices of care
    - Understand the types and sources of variation
    - Identify systemic issues
    - Seek political, strategic and financial alignment
3. Engage and empower
    - Actively engage those responsible for and affected by change
    - Facilitate dialogue
    - Foster a culture of willingness to learn and freedom to act
    - Provide headroom, resources, training and support

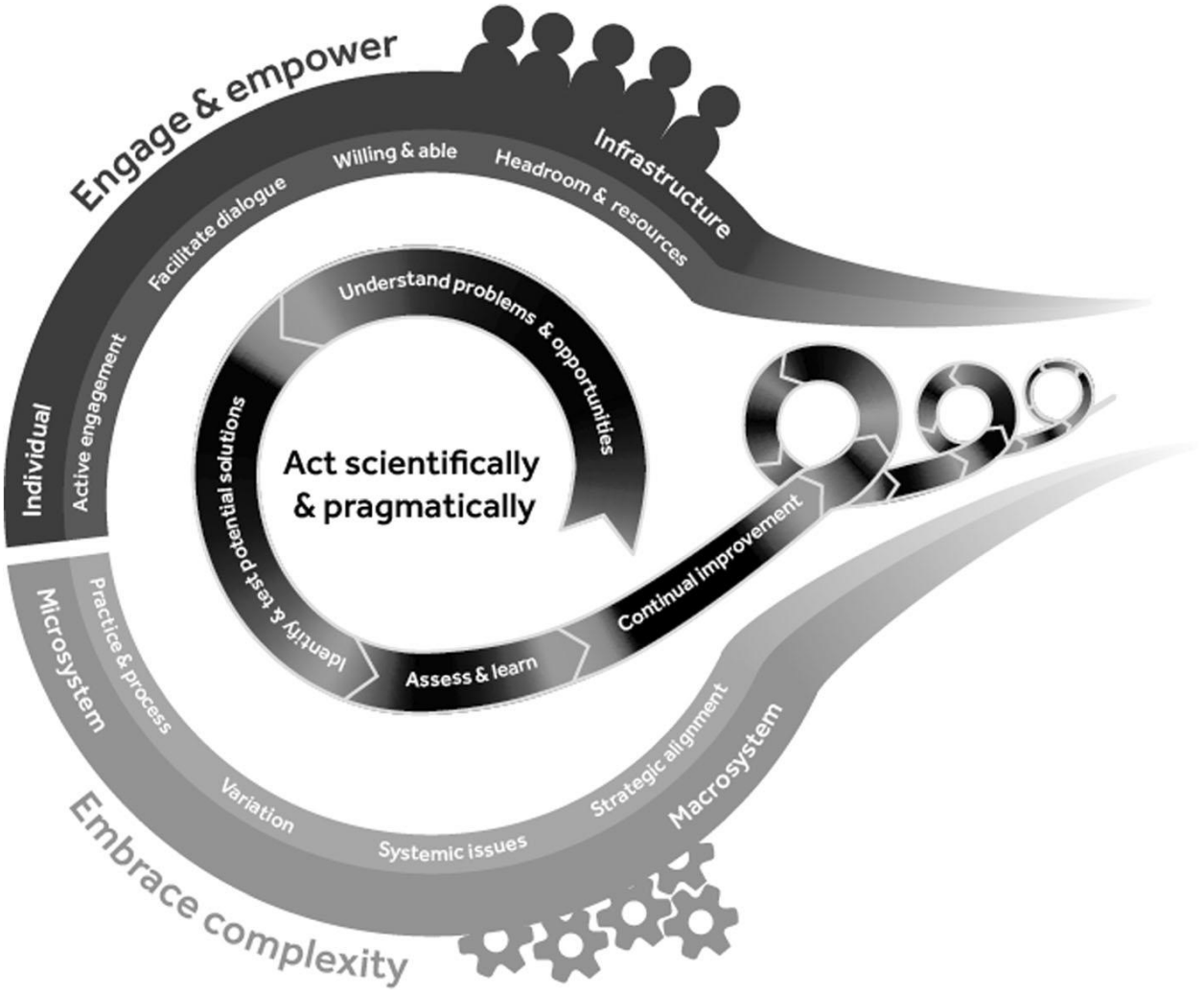

Figure 1. SHIFT – Evidence conceptual framework. (Reed et al., 2018).

Long et al. (2018) discusses that complexity theory does not attempt to control the research but looks at all the parts that interact, identify patterns and how that affect the system as a whole. Based on the description above I believe that Complexity theory and the adaptation of the SHIFT evidence framework based on the theory would be a good fit for this qualitative research to look at EP in the hospital setting and how the preparedness rule implementation effects the Pacific Northwest community.

Structure and Influencers of Hospital Preparedness

Markiewicz et al. (2010) conducted qualitative study using interviews to understand EP and epidemiologist support between hospitals and public health department in North Carolina. Methods included surveys and semi-structured interviews. Coding and analysis were done using ATLAS.ti program. Quantitative descriptive statistics were analyzed with Microsoft Excel program. The study results have found a positive effect on communication, disease surveillance; EP and response with an epidemiologist present (Markiewicz et al., 2010). The study recommends similar programs in other communities for EP indicating a potential solution for communication between hospitals and public health is having an epidemiologist on staff (Markiewicz et al., 2010). Levinson (2014) surveyed 174 hospitals and conducted 10 site visits, additionally he interviewed state hospital associations and health care coalitions in the Connecticut, New Jersey and New York area. Of 173 hospitals 153, 89% reported having difficulty during Hurricane Sandy, including problems with patient care and staffing (Levinson, 2014). Additionally, problems were identified with infrastructure, including electrical and communication problems and difficulties with community collaboration over resources, transportation and fuel (Levinson, 2014). Rahm and Reddick (2011) explored Chief Administrative Officers (CAO) and their risk perceptions related to disasters and emergencies. The study used surveys from US cities. A total of 131 surveys collected with 76.5% response rate (Rahm & Reddick 2011). The study was evaluated using contingency table analysis and it was found that CAO's have misinterpretations of

the threat to their cities; some think that their city is more vulnerable than other cities; some think the threat is not as much as in other cities when this is not the case (Rahm & Reddick 2011). The study suggests the need for future studies exploring CAO's actions taken for disaster preparedness based on their perception of risk (Rahm & Reddick, 2011).

Hospital Preparedness

Mellow, Bloch and Grimes (2018), Ramsey Hamilton and Miller (2017) and Elko (2017) describes hospital preparedness framework according to the CMS Rule including four major elements: a. Risk assessment of local hazards prior to creating a plan and planning for emergencies once the assessment is completed. b. Developing policies and procedures for emergencies that align with the risk assessment, policies and procedures must have an annual review. c. Providing communication plan according to state and federal laws, sharing information and carrying out safe patient care locally as well as state wide, if needed, timely and effectively. d. Providing adequate training with yearly review and testing for EP with hospital and community drills to practice preparedness.

Taschner, Nannini, Laccetti and Greene (2017) examined EP policy and practice in Massachusetts hospitals after 9/11/2001 using a qualitative inquiry. The case study used purposeful sampling and a snowball method. Data collection included key informant interviews and review of policies, programs, and directives. Research findings included emerging themes: standardized training needs, importance of communication and collaboration, effects of funding creating financial burden for hospitals (Taschner et al.

2017). This study showed the need for future research and identified funding and training needs for hospitals with new EP rules and policies that require implementation. Cagliuso (2012, 2014, 2014a) also used a qualitative phenomenological study to explore the EP in hospitals and stakeholders' views on preparedness. The method uses a phenomenological approach with stakeholders in Middle Atlantic state metropolitan area; using semi – structured in depth interviews based on a developed interview protocol. The study confirms the need for future research based on the themes found, that supports the planned qualitative inquiry in EP in health care settings. The study had a developed interview protocol. The outcome included stakeholders finding the system positive, effective, time consuming and ineffective. The study found emerging themes of necessity for funding, essential elements included collaboration, communication, coordination; in role of the government the study participants had mixed views and the need for hospital leadership buy in for success was identified (Cagliuso, 2014a). Cagliuso (2014a) concludes that future studies are needed for additional support in EP.

Christian, Kollek and Schwartz (2005) described hospital preparedness in Canada as having appropriate planning for the facilities, training for the staff, appropriate equipment and planned exercises. Although EP should be current all the time, Christian, Kollek and Schwartz (2005) found that disaster plans in hospitals are only checked every few years for accreditation purposes. The authors recommend exercises for disasters to be done at least once a year (Christian, Kollek, & Schwartz, 2005). Liu et al. (2018) found that hospitals could benefit from increasing collaboration with outside agencies for disaster preparedness. Currently many hospitals prepare and communicate internally or

maybe with some governmental agencies but do not include additional community partners in the planning process (Liu et al. 2018). Levinson (2014) found that 47 hospitals had difficulty with communication during Hurricane Sandy. Additionally, collaboration outside of the hospitals created challenges (Levinson, 2014). Increasing outer agency collaboration and practicing full scale disaster drill exercises could be very beneficial for EP (Liu et al., 2018). Hospitals were used as shelters during the Hurricane, that created additional difficulties including the use of limited resources for people who did not have a medical need (Levinson, 2014).

Looking at two hospitals in Texas Dallas Woods (2016) found that collaboration with external governmental agencies like the Centers for Disease Control and Prevention (CDC) are vital to successfully manage Ebola and prevent the spread of the disease. The study revealed the importance of hospitals keeping up to date on new protocols, training staff to prevent disease spread and correct diagnosis (Woods, 2016). In these cases, Emory University hospital was up to date with its protocol and was able to manage patients well while Texas Health was not prepared, and that gap of knowledge and lack of protocol led to misdiagnosis, spreading of the disease and deaths (Woods, 2016).

Joint commission

Elko (2018) described the new requirements added by the Joint Commission's survey on performance of the 2016 CMS EP Rule. Requirements include: steadiness of operations and succession plans; documentation of partnership with local, tribal, regional, state, and federal EM officials (Elko, 2018). Additional requirements include: upkeep of contact information on volunteers including tribal groups', continuous training of new

and existing staff, including any contractors and volunteers; annual trainings; integrated health care systems and transplant hospitals (Elko, 2018). Levinson (2014) found that most of the hospitals, 157 out of 171, that had difficulty during the response for Hurricane Sandy had received citations before from hospital surveyors. Collaboration at the community level, as well as State and Federal level, is recommended during major disasters (Levinson, 2014).

Disaster Planning and Logistics

VanVactor (2016) used a qualitative, quasi – case study approach to improve understanding of the processes related emergency planning, logistics and evaluate the interaction between emergency management, disaster planning and the United States Department of Defense (US DoD). The author discussed the need for flexibility during disasters, breaking down silos between organizations, the importance of collaboration between agencies, stakeholders and building community resilience (VanVactor, 2016). Participants included *n*=20 military leaders (VanVactor, 2016). Difficulties in logistics include the complex nature of a disaster that even during the disaster there is information that is not known that can lead into disruption on the supply chains (VanVactor, 2016). VanVactor (2016) recommends that professionals whom work in the supply – chain need to have built relationships and practice to function more seamlessly during a disaster. Additionally, increased understanding through scientific research before, during and after disasters can also increase effectiveness of efforts in preparedness, response and resilience for disasters (VanVactor, 2016). Obaid et al. (2017) observed that failure to appropriate planning for disasters including infrastructure development can cause patient

deaths and legal consequences. Additional planning problems included lack of staff knowledge and lack of coordination in the region (Obaid et al. 2017).

Preparedness

Egli (2013 & 2014) discussed the results of her exploratory study on EP in the United States using interviews, policy review and case studies. The goal of the study was to find opportunities for better preparedness, resilience and response (Egli, 2013; Egli, 2014). Egli (2013 & 2014) and Sobelson, Wigington, Harp and Bronson (2015) asserts that collaborative thinking and resilience building is essential to EP in all levels of community and government. Resilience and preparedness investment are beneficial as each dollar spent now saves 4 dollars in the future (Egli, 2013; Egli 2014). Preparedness includes the need for stable infrastructure (Egli, 2013; Egli, 2014; Obaid et al. 2017). Currently there is only a low 2% of the US GDP is spent on infrastructure maintenance that can include highways, bridges, water supply (Egli, 2013; Egli, 2014). There is a great emphasis on individual preparedness recommended by FEMA as a first step for disasters where a person should be able to self-sustain for at least 72 hours (Egli, 2013; Egli, 2014; Sobelson et al. 2015). VanVactor (2016) and Obaid et al. (2017) described that a well-prepared community is knowledgeable of the incident command system (ICS), know how to take care people in mass casualty incidents, have the knowledge and ability for risk reduction and prioritizing needs. Looking at previous disasters for preparedness is essential and the military has a well-tested action review tool developed in 1993 that uses four points and three questions that helps identify readiness for a disaster, response to a disaster and ability to respond (VanVactor, 2016, p.171).

Community approach

Sobelson et al. (2015) conducted informal conversations with n=88 stakeholders regarding emergency management in the community and preformed a qualitative analysis by using deductive codes. The authors used a literature review and environmental scan to identify the 7 programs in the communities using a whole community approach in EP (Sobelson et al. 2015). The authors used conference calls, site visits, workshops and final reports to collect their data (Sobelson et al. 2015). Findings included leadership experienced in previous disaster and recovery, leadership is visionary, and realist and these attributes help with a successful start of a program and community engagement (Sobelson et al. 2015). Additional findings included for successful preparedness relationship building, community events for engagement, recruitment and recognition of staff and volunteers, preparedness partners can include anyone from the community, the preparedness is culturally appropriate and simple (Sobelson et al., 2015). Sobelson et al. (2015) concluded that a more detailed guidance is needed for a whole community approach to support communities with the analytical tools needed for preparedness. Future research suggested for measurements of community resiliency (Sobelson et al. 2015).

Vulnerable populations

Fagbuyi et al. (2016) discussed medical countermeasures (MCM) for children in public health emergencies. The American Academy of Pediatrics disaster preparedness advisory council had looked at gaps remaining for children in disasters (Fagbuyi et al. 2016). Difficulties arise from medications, antitoxins, medical devices, lifesaving

equipment's and vaccinations, that are lack in supply, or approved for adults but not children, national stockpiles not prepared enough, to address the need of children, whom are almost one fourth of the US population (Fagbuyi et al. 2016). Recommendations from the American Academy of Pediatrics include increased research support, emergency access to medications that are not approved, improving distribution plan and increasing pediatric stockpiles of MCM, pediatric preparedness prioritization, informing pediatric providers on current and up to date use of MCM's and their distribution plan in case of an emergency (Fagbuyi et al. 2016). McDermott, Martin and Gardner (2016) reviewed disaster response needs for people with disabilities. Essential elements for successful disaster response include collaboration at local, state and national level, knowing people with resources, the depth of resources available and building relationships at all levels of private and governmental sectors (McDermott et al. 2016). Math, Nirmala, Moirangthem and Kumar (2015) reviewed articles from 1978- 2013 to define, classify and discuss disasters from the mental health point of view. Math et al., (2015) stated that in a disaster people with mental health issues are 2-3 times higher than in the population whom are not experiencing a disaster. Mental health responses to disaster can include but not limited to relapse to prior mental health disorders, guilt, grief, fear, mental illness, relapse or new substance use, suicidal ideas, death wish, (Math et al. 2015). Abnormal grief reactions that require trauma and grief focused treatment can persist in over 70% of earthquake survivors (Math et al. 2015). Common mental health disorders in a disaster struck population include adjustment disorders, post-traumatic stress disorders (PTSD) anxiety, depression disorders and substance abuse are some examples (Math et al. 2015;

North & Pfefferbaum, 2013). Recommendations included avoid mental health labeling to prevent stigmatization, training the public to be able to provide simple community-based interventions like groups, art therapy, yoga, mediation; instead of only medical professionals providing care (Math et al. 2015). North and Pfefferbaum (2013) conducted a literature search and review n mental health interventions and service delivery in disasters. Findings included the need for integration of mental health services into disaster response, need for providing accurate mental health assessments in a disaster setting, and after the disaster when PTSD and other psychiatric symptoms are most likely develop (North & Pfefferbaum, 2013).

Hospital Staff Preparedness

The research by Shipman et al. (2016) looked nurses whom were first responders in a disaster and in a setting of a shelter or a temporary medical clinic. The study used the phenomenological approach narrative inquiry to identify themes on the participant's reflections (Shipman et al. 2016). Shipman et al. (2016) interviewed 10 nurses about their experiences, used 15 open-ended questions. Themes identified based on the interview questions include: the role of the nurse, knowing the plan and growth, the experience (Shipman et al. 2016). The role of the nurse also had subthemes including: organization, physical assessment, psychosocial needs, and resourcefulness (Shipman et al. 2016). Shipman et al. (2016) found that previous exercise in mass casualty training did not help the nurses to prepare for the disaster in a community setting. Shipman et al. (2016) highlights the need to teach nursing students about community responses in case on a

disaster. The 172 hospitals involved during Hurricane Sandy all had at least one community wide disaster preparedness response event in the prior year and still experienced multiple difficulties during the storm (Levinson, 2014).

Seale (2010) in the narrative description after Hurricanes Rita and Ike found that additional staff preparation and planning is needed for successful EP. The purpose of the study was to provide disaster preparedness improvement in based on experiences from two Hurricanes in a postacute rehabilitation facility. The methods included a narrative description of the evacuation events of Hurricane Rita and Hurricane Ike. The outcomes show that additional disaster preparedness is required beyond the licensing requirements for EP to be successful in a disaster. The author recommends developing a contingency plan, staff preparation, exploring creativity for evacuation and transportation. The study showed one way to describe a qualitative inquiry by using a narrative to describe the previous events that happened and what had been learned. The planned EP study will have parts that could be described as a narrative including documents in the facilities that describe the EP plan. This article highlights previous gaps in preparedness and support needed for future EP implementation.

Hodge, Miller and Dilts Skaggs (2017) in their quantitative study used a survey to look at EP for nurses and have found nurses had difficulties with EP terms and activities, ethical issues, and access to resources. The study was a quantitative survey that was sent out to nurses via e-mail. Data was analyzed using multiple logistic regression and descriptive statistics. Outcomes in the study found problems in areas of preparedness terms and activities, ethical issues, and access to resources. Based on the study a plan for

additional education was developed. The study shows the emergency disaster preparedness needs and conflicts from a nursing perspective in a rural hospital setting. This study outlined the need for additional support and education for nurses in a rural hospital to prepare for disasters.

In a Saudi Arabian study by Alzahrani and Kyratsis (2017) looked at nursing preparedness in hospitals, the authors have found training variances, including the lack of awareness and knowledge of emergency disaster preparedness plans among nurses. The authors examined nurses' knowledge, skills, and awareness of emergency disaster response during mass gatherings. The study design was cross sectional online survey, among four hospital's nursing staff in Saudi Arabia, Mecca (Alzahrani & Kyratsis 2017). A non-probability purposeful sampling was used in the study (Alzahrani & Kyratsis 2017). SPSS was used to get data for descriptive statistics, including mean, median, mode, frequencies, percentages, SD, cross tabulation. The need was identified for communication outreach, education, and skill development (Alzahrani & Kyratsis 2017). This quantitative study showed the need between consistent EP training and education need in hospital EP.

Charney, Rebmann and Flood (2014) conducted a survey of hospital personnel after a tornado in Missouri. Response rate of 23.4% with n= 1234 healthcare workers, the researchers used SPSS for data analysis. Data analysis included multivariate logistic regression, linear regression, McNemar tests, Chi squared, descriptive statistics, additionally the good model fit, and t-tests (Charney et al. 2014). Prior preparedness was a great indicator for future willingness to work in a disaster (Charney et al. 2014). Staff

who participated working after the tornado showed more willingness to work again in a disaster (Charney et al. 2014). Childcare was found an obstacle to go to work, 61% of staff had childcare needs during the week after the tornado, and 54% used alternative childcare (Charney et al. 2014). Of the respondents 51% stated they would have used childcare if it was offered by the hospital, increasing the likelihood for reporting to work (Charney et al. 2014). Baack and Alfred (2013) conducted a study to identify rural nurse's readiness in Texas for disasters. The study was a descriptive correlational design and used surveys that were answered by $N = 620$ nurses. Statistical analysis included priori power analysis for multiple regression. The study found that nurses did not feel that they are prepared for a disaster response. The authors suggest that additional training for nurses in disaster preparedness is indicated, to ensure appropriate safe response to an occurring disaster. Veenema et al. (2016) explored nurse's role in disaster preparedness and response. The authors underline the importance of nurses' role in disaster response as nursing is the largest medical workforce in the United States. The project come up with recommendation for nurses in policy, training, education and research for disaster response. The authors call for a coordinated approach to provide appropriate education that has previously been not provided.

Public Health Departments

Gossip et al. (2017) conducted a rapid realist review of 44 articles and explored monitoring, and evaluation of the disaster response; including the lack of improvement on effectiveness in public health departments. Gossip et al. (2017) asserts that monitoring and evaluation in disaster response is a critical part to improve future disaster responses.

Findings included current struggles for health departments to learn from prior mistakes, the need standardized forms used in disaster response, positive leadership in local health departments, increase learning and training opportunities as well as collaboration with community partners including sharing information related to disaster responses. To improve disaster response and strengthen the local department functions identification of currents risks, strengths of the departments, areas where improvements are needed, including updating policies and procedures is needed (Gossip et al. 2017). Shah, Newell and Whitworth (2016) studied local health departments and their capability related to EP and informatics. The study used Poisson regression analysis from the 2013 National Profile of Local Health Departments (LHD) survey *n*= 505 subsample was selected to be included in this analysis (Shah, 2016). The results had found that 38.3% of the local health departments participated in exercises or drills in the previous 12 months to prepare for emergencies. The researchers additionally found that writing and developing an emergency plan was 86.9%among LCH's, preparedness training for staff was 84.3% and tabletop exercises were 76.4%, assessment of staff preparedness 66% (Shah, 2016). LCD's with higher informatics capabilities had more EP activities than other LHD's (Shah, 2016). Shah (2016) discussed the importance of EP exercises as a need for real life events and the concern that only a small portion of LHD's participated in full scale exercises in the last 12 months.

EP Coordinator

Goss (2017) in the qualitative inquiry looked at the risk perceptions of all hazard pandemic emergency planning in a Red River Emergency Operation Center in North Texas. Goss (2017) used semi structured interviews with the EP managers. Hand coding and thematic analysis was used for data interpretation (Goss, 2017). Themes identified from the study included political climate, emergency response, training, experience and communication (Goss, 2017). Findings of the study included lack of effective communication and coordination, lack of trust in government, and shortfalls in training (Goss, 2017). Adini, Laor and Aharonson (2014) in their study looked at hospital preparedness in Israel for pandemic influenza, found essential factors that influence preparedness. Israel developed a national policy, and hospitals developed standard operating procedures (SOP), for pandemic influenza (Adini et al. 2014). The authors conducted a quasi – experimental study, used surveys that were sent out twice to hospital managers to evaluate pandemic preparedness (Adini et al. 2014). Results conducted by looking for correlations with logistic regression analysis (Adini et al. 2014). Findings included the benefits of SOP, developed based on guidelines from the Ministry of Health (MOH), knowledge about the disease, and preparedness evaluation (Adini et al. 2014). Shah (2016) found that having an EP coordinator at the local health department increased preparedness activities by 1.28 times. Bennett, Phillips and Davis (2017) looked emergency managers and their role in integrating techniques like wireless technology that help disaster response and recovery focusing on people with disabilities and benefiting the whole community. The authors found that incorporation of wireless technologies can

help at the individual household level as well as during preparation and recovery in disasters (Bennett et al. 2017).

Education and Training

Shipman et al. (2016) believed that there is not enough community EP thought in nursing schools. All the authors were professors in nursing, or education, based on their titles and description in the article (Shipman et al. 2016). Based on that and the need for further education in the article the authors have a strong belief in the importance of education and preparing new nurses for disaster response (Shipman et al. 2016). The description and telling the story of the lived experiences of first-time nurses who responded to disasters, proved the gap in the nursing education on EP (Shipman et al., 2016). Liu, Fowler, Roberts and Herovic (2018) in their qualitative inquiry found that additional training and education needed for nurses, relating crises communication, and ethical decision making, during an emergency related to a disaster. During emergencies nurses might have to make decisions, regarding patient care that would be outside the law, and their comfort zone (Liu et al. 2018). Alim, Kawabata and Nakazawa (2015) looked at disaster preparedness training and drills for nursing students. The authors used nursing students in their study and created an 8 hour one-day training in disaster preparedness training and drill n =225 (Alim et al. 2015). The study evaluated how well the training worked by a 20 question pre and posttest, observation of study participants during the drill using a Likert scale and interviews n=40 randomly chosen participants (Alim et al. 2015). Alim et al. (2015) used R 3.0.0 for statistical analysis using paired *t*-

tests. The total of *n*= 309 students participated in the training, the researchers found that the students' knowledge significantly improved in the post test compared to the pre-disaster training test (Alim et al. 2015). The interview results in 73% of the cases indicated that students understood what need to be done in a disaster (Alim et al. 2015). The authors have concluded that additional studies and disaster training curriculum needed to evaluate the success of disaster training for nursing students (Alim et al. 2015).

Paganini et al. (2016) looked at EP in Italian hospitals using interviews in qualitative study. The researchers found that emergency room physicians have a lack of knowledge, on what to do during a disaster; because of this finding education and training needs were identified. The study was cross sectional design with a convenience sample. The researchers conducted structured interviews. Data was analyzed by frequencies for respondent characteristics, by Mann – Whitney test for non-parametric data, and the Kruskal -Wallis test. The results identified lack in knowledge, of EP in a disaster, by the physicians on duty. Italy has a policy for hospital preparedness that need to be followed like the EP rule in the US. The study found inadequate disaster preparedness in the hospital's ED department (Paganini et al. 2016). This finding is an indication of a potential gap between EP rule and implementation (Paganini et al. 2016). The Israeli study by Adini et al. (2014) suggests that hospital managers who have knowledge about different emergency scenarios, have increased capacity and preparedness to respond to an emergency. Practicing drills did not seemed to be effective, for pandemic purposes, but the authors acknowledge that it is beneficial for mass casualty incidents (Adini et al. 2014). Gap in knowledge was found regarding personal protective

equipment for staff in case of a pandemic, authors suggest the cause was ineffective communication to staff (Adini et al. 2014).

Wallace (2016) explored the development of a peer support pilot project for emergency responders, to provide encouragement and emotional support if the need arises. The goal of the project was to increase operational effectiveness, and increase resilience of personnel (Wallace, 2016). During deployment in a disaster there is multiple trauma, and emotional impact, experienced by the disaster relief personnel, related to witnessing destruction to property and human suffering (Wallace, 2016). Wallace (2016) found the peer support model effective in the pilot project. This implicates that potential trainings in other settlings, like hospitals, and community disaster response systems, could be useful to provide emotional support for staff during a disaster. Obaid et al., (2017) developed EP training for rural communities and analyzed findings after training. Rural communities have less resources and resources are more dispersed causing difficulties to respond to a disaster (Obaid et al. 2017). The exercise was a three-hour long training and a three-hour conference after the training with n= 83 command center participation (Obaid et al. 2017). The participants were evaluated based on their emergency operation plan adherence and intra agency coordination (Obaid et al. 2017). Findings included problems with communication, not knowing how to request additional staff and assets for support, not using the Incident Command system, not knowing who to contact for transfers not having the incident action plans (Obaid et al. 2017). Obaid et al. (2017) recommended the use of disaster exercises for disaster planning to assess and practice multi agency and organization practice before a disaster. Ripoll et al. (2015)

conducted a systematic literature review, to identify competencies for disaster management, and response to develop competency-based education. The study used the systematic reviews and meta-analysis checklist and included scholarly papers between 2004 -2014 using 38 articles after exclusion criteria (Ripoll et al. 2015). The authors asserted that education needs to be based on a well-defined core set of competencies to build the required knowledge and skills for disaster preparedness and response (Ripoll et al. 2015). Findings included the lack in consistent terminology use, the need for standardizing disaster preparedness and response education that is multi-disciplinary (Ripoll et al. 2015). Current findings included that most disaster preparedness studies are focusing on health care and the nursing response (Ripoll et al. 2015).

Standards of care

Leider, DeBruin, Reynolds, Koch and Seaberg (2017) in their literature review explored ethical guidance offered as part of crisis standards of care (CSC) in disaster response. He researchers reviewed relevant literature and found some controversy about standards of care during a disaster (Leider et al. 2017). Issues arise between individual provider responsibility versus a systemic response to a disaster and liability for the standards of care provided (Leider et al. 2017). The authors recommend prior planning from federal to local level to provide the best possible care during a disaster (Leider et al. 2017). Additionally, prior planning can support providers following treating people in the most ethically and legally appropriate way even in less than desirable circumstances like a mass causality incident (Leider et al. 2017). VanVactor (2016) described the main goal

of supply chain support during the disaster is to help health care professionals decrease the risks associated with health needs during the disaster.

Responsiveness to Emergencies During a Disaster

Responding to a disaster needs knowledgeable and well-trained professionals, the job is highly stressful, for any personnel in disaster preparedness (Wallace, 2016). Ablah et al. (2010) used surveys across 23 states, with *n* =522 responses, to explore the collaboration between community health centers, and local health departments. Surveys were sent by e-mail, based on available directory of health departments, and community health centers (Ablah et al. 2010). The survey included four different themes related to disaster preparedness: demographics information, collaborative disaster preparedness and disaster response and disaster plan knowledge (Ablah et al. 2010). Data analysis software SPSS was used to look at frequencies, *t*-test and chi-square (Ablah et al. 2010). The study found that while there is collaboration between community health centers and local health departments, there is a lack of exercises of EP drills that are practical (Ablah et al. 2010). Reporting on the response to Haiti's earthquake in 2010 Martin, Nolte and Vitolo (2016) explored the disaster response between international disaster relief agencies, by looking at the four C's: collaboration, communication, coordination and cooperation. The researchers used the e-mail communications, and 8 face to face interviews between organizations, to analyze the four C's (Martin et al. 2016). The e-mails represented 47 individuals from different organizations, the data included 150 pages (Martin et al. 2016). Results indicated that 15% of the e-mails related to communication, cooperation pointed

to courtesy and respect between the organizations (Martin et al. 2016). Coordination appeared to be a one-way announcement, in many cases, where organizations announced what is their plan (Martin et al. 2016). Collaboration was found difficult to find, in the e-mails, the researchers suspect it was related to new organizations arrived at the scene in Haiti every day (Martin et al. 2016).

Catalino (2015) in his qualitative inquiry looked at vulnerable populations in a disaster response, status post Hurricane Katrina, and the impact of the Federal Legislation. Catalino (2015) interviewed 5 emergency managers in Louisiana, he used open ended interview questions. The study used snowball sampling method and thematic analysis (Catalino, 2015). Catalino (2015) found 15 emerging themes that included: increased coordination between state and federal agencies, increased planning efforts, regional coordination, increased storm preparedness. Challenges included language barriers, lack of funding, transportation difficulties, not enough sheltering and providing for people whom are sick and not able to move on their own (Catalino, 2015). Levinson (2014) looked at hospital emergency response during Hurricane Sandy. Phillips (2018) discussed the EP managers stress, and burnout during disaster deployment. Phillips (2018) used a secondary data set in her quantitative correlation study, with $n = 4776$. Main questions related to physiological demands on the job, stress on the job, and peer support in the form of offering psychological first aid (Phillips, 2018). Linear regression was used as a statistical analysis (Phillips, 2018). Results included a significant relationship between burning out, job demands, and perceived stress during disaster

deployment (Phillips, 2018). Results for peer support and burnout did not find a significant correlation which contradicts prior research (Phillips, 2018).

Melnikov, Itzhaki and Kagan (2014) explored the willingness of Israeli nurses to respond to a disaster. It is an important element in disaster planning to know how many staff will be available to respond and willing to come to work when needed (Melnikov et al., 2014). The authors used a convenience sample of n = 243 nurses who answered surveys. Data analysis included descriptive statistical elements, Pearson correlation coefficients, *t*-tests and multiple regression analysis (Melnikov et al. 2014). The study found that there is an educational element that need to be added for nurses including self-efficacy. From the nurses who filled out the survey, less than half of them reported to work in prior cases when responding to a disaster (Melnikov et al., 2014). Causes of not reporting included, but not limited to, childcare issues, knowledge, intention to report to work and self-efficacy (Melnikov et al. 2014). Nurses who had higher efficacy on the survey were more likely to respond to disasters (Melnikov et al. 2014). Errett et al. (2013) explored the willingness of Medical Reserve Corps (MRC) volunteers to respond to disasters that are public health related. The MRC has over 200,000 volunteers nationwide with a role of supporting public health workforce and the community during and after a disaster (Errett, et al. 2013). The participants filled out an online survey n = 3181 (Errett et al. 2013). The authors explored four different scenarios including a radiological event, pandemic influenza, weather related event and bioterrorism scenario (Errett et al. 2013). The researchers found that responders with higher self-efficacy were more likely to respond to disasters than those with low self-efficacy (Errett et al. 2013). The study

concluded that even volunteers 1 out of 10 who signed up for disaster response might not have the willingness respond to a disaster (Errett et al. 2013). Errett et al. (2013) outlined that the findings of the study were similar to other findings of staff willingness response related to disasters in hospitals, public health sector, and emergency medical technicians.

Rivera-Rodriguez (2017) explored public health nurse's role and preparedness during disasters by using a systematic literature review. The author described difficulties for nurses to respond related to fear, not knowing what to do in a disaster, and worries about their families (Rivera-Rodriguez, 2017). It is important for nurses to understand their role, and what way they need to do to respond during a disaster (Rivera-Rodriguez, 2017). Findings included that there is not enough evidence to define the role of public health nurses, during a disaster and additional research is needed in this area (Rivera-Rodriguez, 2017). This literature raises the question on responsiveness to emergencies and disasters, when there is no clear role definition for nurses in public health. Luscumb (2017) in a literature review about nurses' willingness to respond to earthquakes, found that it is essential for nurses to be available during a disaster response, for the local hospitals to succeed. Nurses willingness to respond dependent upon having children, elderly or disabled family members at home, fear of becoming ill or having a family member who is ill (Luscumb, 2017). Having childcare is another factor when looking at nurses caring for others in a disaster (Luscumb, 2017). Ben Natan, Nigel, Yevdayev, Qadan and Dudkiewicz (2013) explored nurses' willingness to report for work in the event of earthquake in Israel. The researchers found that 57% of respondents were willing to report to work in case of an earthquake (Ben Natan et al. 2013). The researchers used

self-administered surveys for *n* = 400 nurses (Ben Natan et al. 2013). Predictors to report to work included increased self – efficacy, nurses experience, available support including multi-disciplinary collaboration, and level of knowledge (Ben Natan et al. 2013). Based on the finding's hospitals can work on supporting nurses, this action can increase likelihood for nurses willing to report to work during a disaster.

Boyd et al. (2017) looked at the CDC's Emergency Response and Recovery Branch (ERRB) humanitarian emergencies and public health response in the years 2010-2016. Case studies included Haiti earthquake response in 2010, Horn of Africa famine and displacement response 2011 – 2014 and Syria displacement response from 2012 to present (Boyd et al. 2017). Findings included the need for close relationship and collaboration with other agencies and organizations, and epidemiologic methods that function in an environment where resources are limited (Boyd et al. 2017). Additional findings included the need to be flexible to the population and situation at hand, commitment to support the community long term and the expertise of people who had been in disaster responses before (Boyd et al. 2017).

Communication

Liu et al. (2016) described communication with the public based on four elements: understanding the message, believing of the information presented, personalizing the message and deciding on what actions to take. Paek, Hilyard, Freimuth, Barge and Mindlin (2010) in their article theory-based approaches to understanding public emergency preparedness: implications for effective health and risk communication examined theory-based approaches like the Transtheoretical Model (TTM) in EP to

recognize the effectiveness in communication. The study used TTM in two ways including the use of model for the dependent variable by creating a measurement for EP actions (Paek, et al. 2010). The second way was to look at theoretical concepts that are crucial to EP (Paek, et al. 2010). The study method included random digit telephone surveys using multistage sampling method (Paek, et al. 2010). The study found that 24% individuals are in action stage and 30.5% are in maintenance based on the TTM model in their stages of EP (Paek, et al. 2010). The article supports the usefulness of the TTM as a framework in EP analysis for individual responses (Paek, et al. 2010).

Palttala, Boano, Lund, and Vos (2012) looked at crisis communication gaps in disaster management, by using qualitative open-ended questions. The authors established that during crisis, communication must be quick, and effective (Palttala et al. 2012). The online qualitative questions had 40 responses that were analyzed by deep content analysis, seeking emerging themes (Palttala et al. 2012). Communication gaps identified included: coordination and cooperation regarding communication within the disaster response network, with media and with citizens (Palttala et al. 2012). The authors recommended future research as communication patterns and effectiveness varies across countries (Palttala et al. 2012). Liu, Fraustino and Jin. (2016) looked at social media and its role in disaster response and communication. Liu et al. (2016) describes 72% of the population using social media like Facebook or MySpace. Sandborn (2017) in her report on Hurricane Harvey described difficulties in communication, with state and federal officials. Additional difficulties included, providing shelters for all people needed, taking care people with disabilities, and taking care dialysis patients (Sandborn, 2017). Obaid et

al. (2017) found that communication that is well planned between multiple agencies during a disaster creates a valuable strength for coordination during a disaster.

Liu et al. (2018) looked at communication during disasters in a hospital setting. The authors used snowball sampling and had interviewed 27 people in crisis management or communications experience in a hospital setting (Liu et al. 2018). The authors stopped interviewing once their data reached saturation of same themes, coming up with no additional emerging themes (Liu et al. 2018). Liu et al. (2018) used a qualitative data program to code their transcripts and looked for emerging themes. Examples of themes: avoid over sharing of information, segment communication, care first, emphasize local ties, face to face communication and nurse empowerment (Liu et al. 2018). Findings included the need to reinforce current best practices, managing up, looking at better communication with media outlets (Liu et al. 2018). Anthony, Sellnow and Millner (2013) described effective crisis communication when people can make the best reasonable choice possible, based on the gathered information. The researchers used 8 focus groups, to determine the use of message convergence framework effectiveness in crisis communication (Anthony et al. 2013). Internal communication issues can cause problems during disasters. Liu et al., (2018) found that delayed internal risk communication can threaten the wellbeing of both staff, and patients. Another problem is miscommunication during a disaster, that can create wrong actions from hospital staff (Liu et al. 2018). Solutions could include correcting the information, there is future research needed in this area what would be the best practice for success (Liu et al. 2018). Receiving the proper information from credible sources during a disaster help people

choose proper actions based on the received information (Anthony et al. 2013). Liu et al (2016) conducted an online study with n = 2015 participants via random national sample. The survey included a Linkert scale looking at information sharing behavior and taking protective actions (Liu et al. 2016). The finding included that people predominantly prefer phone conversations, and face to face interactions, e-mailing, and texting instead of social media communication (Liu et al. 2016).

Woods (2016) used a case study approach to look at two hospital's responses after getting Ebola patients. Woods (2016) used thematic textual analysis with inductive category development. Themes found included planning, practice, protocols, collaboration, communication and reassurance (Woods, 2016). Findings of the study included that at one of the hospitals ineffective communication led to misdiagnosis and death (Woods, 2016). Additional problems included, inadequate practice and training on how to use protective equipment for Ebola patients (Woods, 2016). The study outlined the importance of effective communication needs, among hospital staff. In this case proper communication that was timely could have prevented misdiagnosis and death.

Gaps in Literature

Hammad, Arbon, Gebbie and Hutton (2017) used a hermeneutic phenomenological approach in their qualitative inquiry, interviewing 13 nurses from all over the world including the United States. The authors used thematic analysis for their data (Hammad et al. 2017). The research identified five themes including notification, waiting, patient arrival, carrying for patients and reflection (Hammad et al. 2017). Findings included that education for nurses to prepare for disasters and additional

research needed for disaster preparedness (Hammad et al. 2017). The article showed the gap in the literature for EP (Hammad et al. 2017). Baack and Alfred (2013) described the need to research nurse's role during a disaster. The authors concur that there is only a small amount of research in this area. The research is highly needed as nurses consist of the largest workforce in the healthcare system (Baack & Alfred, 2013). The authors described nurses as being involved in each part of disaster and preparedness planning (Baack & Alfred, 2013).

Liu et al. (2018) in their qualitative study found that there is a need for research in the literature, related to crisis communication, for nursing staff in hospitals. Liu et al. (2018) suggested that nurses can play a key role in crisis communication, related to the trusted relationship between nurses, and patients, and their families. Additional research needed in face to face communication, and best practices during a disaster (Liu et al. 2018). Liu et al. (2018) found that most communications in hospitals happen face to face, and currently to the authors knowledge there is no research being done in this area. Liu at al. (2016) described a future research need into social media communication, and the reasons why people prefer other means of communications in disaster, like phone calls, and face to face communication instead of using social media. Gossip et al. (2017) in her rapid realist review and Savoia et al. (2017), in their systematic literature review found that there is a gap in the literature regarding information-sharing between organizations including public health departments sharing findings, updating key stakeholders and communication with the public, including creating information for diverse audiences. Gossip et al. (2017) suggest that future studies needed to explore how current technology

can help disseminate information learned from previous disasters to improve future responses. Phillips (2018) concluded that there is little research in exploring burnout and stress, in emergency managers deployed during a disaster. Rivera - Rodriguez (2016) described the gap in the literature to define the roles of public health nurse during a disaster.

Alim et al. (2015) found that there is a gap in the literature that requires need for disaster training development for nursing students and post training short- and long-term evaluation of effectiveness of EP training. Pourvakhshoori, Norouzi, Ahmadi, Hosseini, and Khankeh (2017) reviewed literature on disaster nursing. Pourvakhshoori et al. (2017) identified nurses as health care professionals playing a key role in the outcome of disasters. The authors while searching for a model for nurses that can be used in disasters have found that there is no comprehensive model at this time and there is a need for further research to identify or develop a comprehensive model for nurses that can be used during disasters (Pourvakhshoori et al. 2017). Pourvakhshoori et al. (2017) described the necessity to develop a disaster preparedness nursing model to increase better outcomes from preparation to response.

Conclusion

Disasters can happen at any time in any area of the United States. EP is essential to help respond to manmade and natural disasters. Hospitals are essential entities to respond to emergencies during disasters as they are the front line of support in the community (Liu et al. 2018). The complexity of preparing for disasters includes many

elements that need to be coordinated. EP managers in hospitals are key personal to support the preparedness and response process to disasters. EP managers are at high risk for burnout, related to physical demands, and stress during deployment (Phillips, 2018). There were gaps found in certain elements of preparedness, based on the above literature review. Coordination and preparation efforts for emergencies, related to disasters, can include but not limited to effective communication strategies, including risk communication, communication is disasters both internally and with outside agencies, appropriate training and practice for staff and community, available equipment, resources, previously developed policies and response protocols (Anthony et al. 2013; Liu et al. 2018; Woods, 2016). Lanard and Sandman (2014) are risk communicators who warn about the need for education of the public and more open communication regarding pandemic diseases. Gossip et al. (2017) described the need for disaster risk reduction related to the cost of disasters with natural disasters costing more than $1.3 trillion in the US, affecting a billion and a half people and causing 700,000 deaths in the last decade. VanVactor (2016) suggested building relationships, braking down silos between organizations, improving effectiveness and efficiency of logistics during disasters related to the cost 60-80% in a disaster is due to getting supplies where and when they are needed. Based on the above findings in the current literature in the past 5-10 years there is a need for future exploration of the experiences of EP managers in rural areas in the Pacific Northwest to fill the current knowledge gap. Chapter 2 included an introduction, literature search strategies, a detailed theoretical framework on complexity theory, a detailed literature review on EP and a conclusion. Chapter 3 provides an introduction,

information on the research design, nature of the study with a rationale, participant selection, instrumentation, sources of data, interview questions, research analysis, participant's rights, and a chapter summary.

Chapter 3: Research Method

Introduction

EP planning help save individual lives and communities (Liu et al. 2018). New rules were developed to assure safety and quick recovery after a disaster. Based on the literature review there is not enough knowledge about experiences of EP managers in rural areas in the Pacific Northwest. Thus, it was essential to form a deeper understanding of the perceptions of emergency managers to maintain or strengthen efforts in EP where needed. I choose phenomenology as my research approach to learn about the experiences of EP managers. Phenomenology allows the researcher to look at the phenomena of lived experiences (Creswell, 2014), which can provide a window into the everyday preparedness process in the rural Pacific Northwest. This chapter provides information on the research design for the planned study, nature of the study with a rationale, participant selection, instrumentation, sources of data, interview questions, research analysis, participant's rights, and a chapter summary.

Research Design: Choice of Approach

The two research questions for the study were as follows:

1. How will the lived experiences of the emergency preparation for emergency managers that work in rural hospitals in the Pacific Northwest influences the implementation of the new EP rule for the area?
2. What can be learned from the lived experiences of EP managers in the Pacific Northwest that is a valuable input regarding the EP process?

This research used a qualitative inquiry using a phenomenological approach that focused on the lived experiences of individuals in this study: EP managers. Phenomenology looks at the specific phenomena of interest in this case of the EP rule, its implementation, and the lived experience of the EP managers (Patton, 2015; Ravitch & Carl, 2016). The goal of the study was to find out the experiences of the EP managers and phenomenological approach fits this exploration well (Patton, 2015; Ravitch & Carl, 2016). Phenomenological approach focuses on the lived experiences of the individual, seeks a deep understanding of the phenomena and getting in-depth interviews from participants was a way to get those experiences (Patton, 2015; Rudestam & Newton, 2015). To follow the phenomenological approach for this study, I developed interview questions with prompts to stimulate in-depth responses from participants (Patton, 2015). The participants were people who lived the experience of the new EP rule implementation first hand; the protocol for the study included only those with first hand experiences (Patton, 2015). The procedures followed a phenomenological approach throughout the study and focused on the experiences of the participating EP managers w (Patton, 2015).

Role of the Researcher

I had no personal relationships with the participants. I had met some of the participants in a meeting related to emergency management in the Pacific Northwest. Oregon Health Authority and Clatsop County Emergency manager is supporting a study by providing a recommendation letter to this student and sending it out to rural EP

coordinators in the Pacific Northwest. The relationship of this author to rural communities is that this author has been living and working in the rural community in the Pacific Northwest in the past four years. Management of Biases include: Biases managed by being open, listen, remain professional, transcribe interviews verbatim, write down personal feelings during and after the interview and disclose those feelings as part of the study. Additionally, as a researcher maintaining authenticity to assure an ethical and rigorous study that remains true to the experiences the participants describe (Ravitch & Carl, 2016).

Nature of the Study

This was a qualitative study used a phenomenological approach (Patton, 2015; Ravitch & Carl, 2016). I was seeking to understand the experience and process that health care professionals and other EP personal went through, and the potential lessons learned from their experiences while implementing the new EP rule in Oregon State (Rudestam, & Newton, 2015). The study was conducted using personal interviews with people responsible for EP implementation in hospitals and clinics effected by the EP rule. The population for the study was EP managers in the Pacific Northwest whom work in rural hospitals.

Research Question, Phenomenon of Interest

Approach for this study was - phenomenological approach. Goal of this study was to learn about lived experiences of emergency mangers. The research question: What was the lived experience of emergency managers in rural hospitals in the Pacific Northwest regarding the implementation of the new EP rules for the area? Phenomenon of interest

included the experiences the EP managers had while learning about and implementing the EP rule in a rural hospital setting in the Pacific Northwest. Additionally, how those experiences helped them maintaining the EP in the hospital. Any additional stories that show the meaning of the experiences. Reoccurring identified themes based on the literature including staff training needs in emergency preparedness, education and support needs for staff, communication, and collaboration needs (Alzahrani & Kyratsis, 2017; Cagliuso, 2014a; Hodge, Miller & Dilts, Skaggs, 2017; Paganini, et al. 2016; Taschner, Nannini, Laccetti, & Greene, 2017).

Description of Approach

The approach I used for my research question for the EP rule implementation experience for emergency managers in the Pacific Northwest was phenomenology (Patton, 2015; Ravitch & Carl, 2016). I felt that phenomenology was the closest research that was doable for my dissertation. Another possible option was just doing a general qualitative inquiry with no specific philosophical approach just using open ended question to find out information about the implementation of the EP rule from emergency managers (Patton, 2015). Using phenomenology created an understanding that the participants are experts in their own experiences (Ravitch & Carl, 2016).

Rationale for Chosen Approach

My rationale for choosing phenomenology was that I wanted to explore the meaning of the experiences of the emergency managers had with a new EP rule and find out how the implementation was going what are their lived experiences and the interpretation of those experiences (Patton, 2015 & Ravitch, Carl, 2016). The possibility

of using a general research where I would just ask questions of the emergency manager's experiences without any specific approach that would be framing the dissertation could provide some additional freedom in the study with the same elements like in depth qualitative interviewing (Patton, 2015).

Participant Selection

The target group of interest was EP managers in the rural Pacific Northwest whom were willing to participate in my interview. Sampling included: purposeful sampling of rural EP managers (6 - 12 in depth interviews). The requirement criteria from the emergency managers included: previous knowledge or participated in the EP Rule implementation and work in rural hospitals in the Pacific Northwest. Sampling criteria included EP managers whom work in a rural hospital in the Pacific Northwest and been employed throughout the EP Rule implementation. Selection of participants were based on the location where EP managers work, and their title as an EP manager for a Pacific Northwest rural hospital. EP managers who worked in other rural hospitals during the implementation of the EP rule can also be included. Participants recruitment was by sending out e-mails about the study through my Walden university e-mail account to EP managers throughout the Pacific Northwest. Participant criteria was met by proof of workplace that can include a work e-mail and title received from Oregon Health Authority. My plan was to include between 6 - 12 participants for in depth interviewing in emergency preparedness, this also depends on data saturation (Guest, Bunce, Johnson, 2006; Mason, 2010; de Cassia Nunes Nascimento et al. 2018). The explanation for the 6-12 participants can be found in this chapter under data saturation. The list of e-mails for

EP managers will be provided by Clatsop County EP manager, Idaho and Washington State EP website and Oregon Health Authority. Participants were contacted via e-mail from information found on websites or from the list received from Oregon Health Authority. Participants were sent an invitation letter from my Walden university e-mail to participate in the qualitative research study that is written by me, and a recommendation letter from Oregon Health Authority and Clatsop County EP manager. Participants were asked to respond to the e-mail if they would like to participate. A follow up e-mail was sent in one week of time if needed to encourage participation.

Possible Types and Sources of Data

Sources of data for this research included telephone interviews that are open ended with key informants. EP managers, working in rural hospitals where the new EP rule was being implemented in the Pacific Northwest (Rudestam & Newton, 2015). Qualitative data includes words and ideas like transcript notes from interviews, records and documents related to EP rule (Rudestam & Newton, 2015). Additionally, observations throughout the interview including hand gestures, facial expressions, pauses can provide additional insight to the emotional state of the participant. Data collection was an iterative process (Ravitch & Carl, 2016). Fieldwork and data collection memos including researcher reflections were additional elements included in the data collection (Ravitch & Carl, 2016). The data was collected by phone and face to face interviews between the researcher and the participants. A recording was done on a digital voice recorder, transferred to a personal computer, then transcribed verbatim for data analysis.

Participant data was collected through phone interview and through face to face interview at the participant's work place.

Instrumentation

Recommendations from Patton (2015), Rubin and Rubin (2012) and Walden University Interview Guide worksheet and examples sheet was used to support the development of the interview questions. Additionally, Jacob and Furgerson (2012) described the importance to use the "tell me about" phrase in interview questions and Turner (2010) discussed open ended questions. Examples based on this criterion included in the interview questions below. The interview questions were also posted in the Walden University workshop, received feedback from my professor and classmates that added to the reforming of the questions.

When developing the questions, I tried to focus on what the information is I am trying to get out of the interview. The goal of the interviewing was to learn about the lived experience and the meaning of the lived experience from the emergency managers (Jacob & Furgerson, 2012; Seidman, 2012). The idea was to seek to understand the meaning of the lived experience and the timeframe when the events of the EP rule implementation happened (Jacob & Furgerson, 2012; Jovchelovitch & Bauer, 2000; Patton, 2015; Seidman, 2012). I listened and learned about the emergency managers experiences, to form a story, create a picture (Jacob & Furgerson, 2012; Jovchelovitch & Bauer, 2000; Myers & Neuman, 2007; Patton, 2015; Rubin & Rubin, 2012). Looking at the questions I was taking into consideration previous researcher's and Walden University's recommendation on how listen, to phrase questions to be open ended, use

prompts, follow up questions, how to get people to tell their stories by using phrases like "tell me about" (Jacob & Furgerson, 2012; Myers & Neuman, 2007; Turner, 2010; Patton, 2015; Rubin & Rubin, 2012). Myers and Neuman (2007) recommended mirroring the questions of the participants. Additionally, to the questions Myers and Neuman (2007) analyzed problems with interviews and recommends using an opening, introduction key questions and closing.

Data saturation

Saturation of information includes once the data reached saturation of same themes, coming up with no additional emerging themes (Liu et al., 2018). There is a debate between qualitative researchers in the field on what is an adequate sample size for a study or if a sample size should be given at all, many researchers answered it depends on the study and the researcher and the data how many is enough (Baker, Edwards, Doidge, 2012; Guest, Bunce & Johnson, 2006; Mason, 2010; de Cassia Nunes Nascimento et al. 2018; Rowlands, Waddell & Mckenna, 2015; Sargeant, 2012). There are multiple factors that need to be taken into consideration when thinking about a sample size, including the amount of data collected, time of researcher and participant, feasibility, data collection method, selection criteria, heterogeneity of the study, participant availability (Baker, Edwards & Doidge, 2012; Mason, 2010). The sample size I felt comfortable with for my study included between 6 - 12 participants for in depth interviewing in emergency preparedness, this also depend on data saturation (Guest, Bunce & Johnson, 2006; Mason, 2010; de Cassia Nunes Nascimento et al. 2018). Based on research by Guest, Bunce and Johnson (2006) after 12 interviews they had reached

92% (100) of all codes (109) they have found in their study. Guest, Bunce and Johnson, (2006) in their study interviewed 60 women and monitored the data coding, saturation levels by using transcripts in a set of six at the time, first analyzed data of six interviews reaching 73% of coding (80), the next 6 transcript analysis provided another 19% (20) of the data the rest of the analysis only added 8% of the data or an additional 9 codes to their study showing that around 12 interviews is a good sample size and data saturation point. Data saturation is reached when there is no new information is coming up for codes and themes even if more people are being interviewed (Guest, Bunce & Johnson, 2006; de Cassia Nunes Nascimento et al. 2018; Sargeant, 2012). Based on statistical data analysis Guest, Bunce and Johnson (2006) found that the data they collected in their first 12 interview remained relevant throughout in their study and included 97% of the codes identified. Mason (2010) looked at PhD researchers found that all phenomenological studies had at least 6 participants and only a small percentage of the studies had over 25 participants. de Cassia Nunes Nascimento et al. (2018) and Sargeant (2012) considered theoretical data saturation when there is no new information is found regarding the studied phenomena. de Cassia Nunes Nascimento et al. (2018) describes theoretical saturation in a qualitative research as external validation – research results.

Interview Questions

1. Let's begin, with what you can tell me about your experiences with emergency preparedness?

If indicated probing question:

1.a. Please describe more about your experience.

Additional probing questions can include based on information provided:

1.b. Please tell me more about this experience.

1.c. Is there anything else you would like to add regarding this experience?

1.d. How did this experience made you feel?

1.e. Anything else you would like to add?

2. What you think about the complexity of adding the new EP rule in your rural hospital and community?

Additional probing questions can include based on information provided:

2.a. Please tell me more about this experience.

2.b. Is there anything else you would like to add regarding this experience?

2.c. How did this experience made you feel?

2.d. Anything else you would like to add?

3. How did you or your team worked through the implementation process of the EP rule in your rural hospital?

If indicated – probing question: -

3.a. Please give me an example.

Additional probing questions can include based on information provided:

3.b. Please tell me more about this experience.

3.c. Is there anything else you would like to add regarding this experience?

3.d. How did this experience made you feel?

3.e. Anything else you would like to add?

4. What you think about the process for to you and to your team throughout this EP implementation?

If indicated – probing:

4.a. Please tell me more about this process.

4.b. Additional probing questions can include based on information provided:

4.c. Please tell me more about this experience.

4.d. Is there anything else you would like to add regarding this experience?

4.e. How did this experience made you feel?

4.f. Anything else you would like to add?

5. How you been experiencing the implementing process of the earthquake preparedness in your rural hospital given the new EP rule changes?

Possible probing if needed:

5.a. Please tell me how the earthquake EP is going.

5.b. Additional probing questions can include based on information provided:

5.c. Please tell me more about this experience.

5.d. Is there anything else you would like to add regarding this experience?

5.e. How did this experience made you feel?

5.f. Anything you would like to add?

6. What you think about the process of systems that work together for emergency preparedness?

6.a. Can you give me an example?

Additional probing questions can include based on information provided:

6.b. Please tell me more about this experience.

6.c. Is there anything else you would like to add regarding this experience?

6.d. How did this experience made you feel?

6.e. Anything else you would like to add?

7. What response is supposed to happen in and emergency or disaster?

Additional probing questions:

7.a. Can you tell me more about the response process?

7.b. Anything else you would like to add?

8. How you think prevention efforts can be improved for future emergency events or occurrences?

Additional probing questions:

8.a. Can you please tell me more about this process?

8.b. Anything else you would like to add?

9. Is there anything else regarding the EP process you would like to share?

Additional probing questions can include based on information provided:

9.a. Please tell me more about this experience.

9.b. Is there anything else you would like to add regarding this experience?

9.c. How did this experience made you feel?

9.d. Anything else you would like to add?

10. Are there any topics or issue you that I did not ask you about and you would like to see addressed regarding emergency preparedness?

11. Anything else you would like to add?

These interview questions had been used before during an advanced qualitative research class. I had interviewed 4 people interviews had taken from 15–45 minutes depending on the knowledge on emergency preparedness. Additional questions and probing questions added since the research class interviews to include complexity theory in the questions. The interview questions were used in a pilot study and revised as needed or additional questions added. Context development of the questions based on the role of EP managers in rural hospitals and the expectations of the EP rule. The questions were also guided by the current literature review presented in Chapter 2. The questions sought to learn from the knowledge and experience of EP managers on emergency preparedness. Two interview questions: What response is supposed to happen in and emergency or disaster? and How you think prevention efforts can be improved for future emergency events or occurrences? were adopted from the well tested after-action review questions developed by the US military the original questions were: What supposed to happen? and How could efforts be improved for future events/occurrences? (VanVactor, 2016). Debrief: Thank you for taking your time and participating in this research study. I will transcribe our interview and send it to you for review via e-mail to check accuracy. I will share the study findings with you after data analysis is complete. Please feel free to contact me with any questions or concerns at gabriella.korosi@waldenu.edu.

Validity

I interviewed only previously described EP managers. I did not seek out protected populations such as children, prisoners, residents of any facility, or mentally/emotionally disabled individuals for this project unless they have obtained IRB approval using the

standard full review process via forms found at the university's IRB website (which takes a minimum of 6 weeks). I did not ask if the interviewee if s/he has a disability. I did not out protected populations for this study. I store my project data in electronic format (e.g., Word, Excel, SPSS, Nvivo, etc.) for the duration of my dissertation and then I will dispose of the data at the time recommended by IRB. I de-identified the data as soon as it was possible to minimize risk of inappropriate disclosure of personal information. De-identification consisted of removing all direct identifiers such as names, addresses, or telephone numbers from the raw data and database. I took precautions to not disclose learned information to anyone else any part of the data that is linkable to a participant's identity. I did not provide and payments, compensation, reimbursement, free services, or extra credit or other gifts to the project participants. This ensured voluntary participation. The interview data generated by this study was only be used for the purposes of this dissertation and a follow up research article. Based on the Office of Research and Compliance: IRB Requirements for Selecting Participants (Walden University, n.d.a).

Research Analysis

The research analysis first began with a pilot testing of the research questions to refine questions or develop additional questions as needed and test the validity of the questions as it pertains to EP managers (Ravitch & Carl, 2016). Pilot testing with one to two EP managers from the Pacific Northwest allowed me to determine if the developed research questions generate answers to the research question and analyze primary data to inform the planned study (Ravitch & Carl, 2016). Piloting also supported the validity and rigor of the instrument – the research questions developed for this study (Ravitch & Carl,

2016). Once the interviews were collected by recording, they were transcribed verbatim after each interview (Ravitch & Carl, 2016). After the verbatim interviews were transcribed, I started to look for emerging codes, categories and themes from the data. The transcribed text was checked for accuracy in the interview by listening and checking the written transcript multiple times. First cycle analysis included identifying similarities in the context from the transcript to begin coding the data coding included concept coding and descriptive coding (Laureate Education, 2016a). Second cycle analysis included looking at the data and highlighted areas previously preceded and coded to find additional ways to code the data by looking for patterns. Trustworthiness plays an important element in this qualitative research is relating to the ethical issues that can emerge throughout the research process (Ravitch & Carl, 2016; Shento, 2004). Developing trust is essential in qualitative research, the participant and the research must have a basic trust relationship to be able to get the needed information for the study. Kezar (2014) described how relationships built on trust and this basic trust is needed to move forward creating an innovative and collaborative project (Kezar, 2014). Dependability strategies included using the same qualitative interview guide and field notes (Ravitch & Carl, 2016). Confirmability for this study is acknowledging self-biases, emotions during reflexivity, seek outside experts support like audits (Ravitch & Carl, 2016).

Trustworthiness

The questions that I asked from the participants were simple, clear, open ended, easily understandable, exclude bias, and use words that are non-irritating, free of

assumptions (Patton, 2015; Rubin & Rubin, 2012). In this research I did not ask any embarrassing or personal questions from the participants, the questions were directly related to EP and did not place the participants in risk in any way. My question types included open ended questions, probing and follow up questions to get the in depth meaning that I was looking for throughout this research project (Patton, 2015; Rubin & Rubin, 2012). I turned my interviews into data verbatim transcription from spoken words into the written language (Halcomb & Davidson, 2006; Sutton & Austin, 2015; Smith & Firth, 2011; Rubin & Rubin, 2012). Verbatim transcription in a qualitative research shows validity, reliability, and veracity and assures accurate quotes in the study (Halcomb & Davidson, 2006; Rubin & Rubin, 2012). Verbatim transcription gives increased credibility and reliability to the study because there are no changes to what the participant stated, it is exactly what they said, how they said it (Halcomb & Davidson, 2006; Rubin & Rubin, 2012). Creating a summary can change the meaning, it is interpreted by the researcher, verbatim quotes and transcription shows exactly what was being said (Halcomb & Davidson, 2006; Rubin & Rubin, 2012). Halcomb and Davidson (2006) outlined the need to be close to the data in phenomenological studies. Throughout the transcription process I listened to the same sentences and phrases between 5-10 times to make sure I got them current and I listened to whole paragraphs again. Rubin and Rubin (2012) outlined the importance of listening to the recordings multiple times to get the accurate information on what the participant said. Salma Debs-Ivall described using verbatim transcription and words in her dissertation to keep the meaning of the original interview (Laureate Education, 2017). It was my responsibility to look for alternative

data, negative cases, and their explanations, keep being open minded during organizing and analyzing the data and report alternative findings and their exploration (Patton, 2015). Additionally, used triangulation to show credibility by comparing observations with the in-depth interviews, looked for consistency to see if there are conflict or not about what the participant said throughout the interview (Patton, 2015). To increase trustworthiness and authenticity of the research the results are reported objectively, looking at the interviews from multiple sides and present both sides of knowledge and positive experiences (Patton, 2015). Transferability and Confirmability was achieved by basing the codes in the verbatim interviews, then creating themes which enhances inter-coder reliability and validity (Patton, 2015). Credibility was achieved by showing the audience the correct story and interpretation of the interviews meaning that the story that the participants told the researcher is reflected correctly in the reporting (Patton, 2015). Transferability can be achieved by giving enough information about the study that the audience can draw connections to another similar study that could be transferred too (Patton, 2015). Dependability means to document the research in a manner that makes sense logically; it is traceable and documented (Patton, 2015). In the current research dependability was achieved by transparency of coding, reflections and documentation and summaries on codes, themes as well as the research process. Confirmability was achieved by careful data analysis where all themes can be traced back to final codes that can be traced back to the verbatim transcript of the participants. Confirmability assures that the story is real, the researcher not made up things, and everything can be traced back and connected to the original data (Patton, 2015).

Protection of Participant's Right

Participants were explained the purpose of the study, any risks being involved in the study and the benefits of the study (Hodge & Gostin, 2017). Participants in the study had the right for a voluntary informed consent, which was provided, be protected from harm including protecting the participants dignity, wellbeing, participant rights and to know that the study is ethically sound (Roets, 2017). Participant's rights included informing participants about the study, the purpose of the study, not influencing participants about their choice to participate (Creswell, 2014). I allowed the participants to stop and leave the study at any time. The research questions were designed with a positive intention not to cause any harm, when the participant did not want to answer a question it was his or her right to do so (Roets, 2017). Additionally, protecting individual's privacy and confidentially by removing names from any documents (Hodge & Gostin, 2017). All participants were voluntary participating in this study without any monetary gain. Information on research findings will be provided for participants once the research is completed. I had taken research training and got a certificate of competition in human subjects this year to understand all elements related to human subjects / participants in this study for their protection. To address burden and benefits of the collected data I will provide the research participants with a copy of the dissertation once it is concluded to benefit from the findings (Roets, 2017).

Ethical procedures- informed consent

Ethical considerations begin with maintaining the code of ethic throughout the research process and keeping the study to what the IRB approved (Patton, 2015; Rubin &

Rubin, 2012; Ravitch & Carl, 2016). Ethical considerations can include any financial gain by the researcher from the study and how this could affect participants to prevent exploitation, shares of finances can be shared with participants as applicable (Seidman, 2012). In my study there was no financial gain as the study is for the greater good as part of a dissertation process, thus no concern for exploitation. Establishing trust in the beginning is important, using the do no harm principle throughout the research process, assuring the participant that they don't have to answer a question if they make them feel uncomfortable (Patton, 2015; Rubin & Rubin, 2012). I as a researcher was respectful, honor my promises, act nonjudgmental, show the participant that they can trust in my word, show authenticity throughout the interview as well as through recruitment and follow up (Patton, 2015; Rubin & Rubin, 2012). Issues to address as a researcher would include clear explanation of the purpose of the study, reciprocity for the participant in this study I didn't provide any financial support for the time, but I will share my findings once the study is done (Patton, 2015; Rubin & Rubin, 2012). I reassured the participants to keep the accuracy of the information by informed them that they can read their transcript and make changes or provide additional information which is called member checking (Ravitch & Carl, 2016; Shento, 2004; Statistics Solutions, 2017; Patton, 2015; Rubin & Rubin, 2012). Provide confidentiality for the participants, provide an informed consent, and inform them where the information they share will be kept and for how long as well as what type of information I cannot keep from authorities (Patton, 2015).

Informed Consent

The informed consent was be sent via e- mail format Consent Form for the Interview. The consent was provided by Walden University (n.d.). The emailed consent to the invited interviewee: You are invited to take part in an interview for my dissertation that I am completing as part of my doctoral program. The purpose of the interview is to help me with my dissertation. Interview Procedures: I am requesting that you permit me to conduct an audio - recorded interview or a face to face interview. Transcriptions of interviews will be analyzed as part of my dissertation. Copies of your interview recording, and transcript will be sent to you after transcribing. Voluntary Nature of the Interview: This interview is voluntary. If you decide to take part now, you can still change your mind later. Risks and Benefits of Being Interviewed: Being in this interview would not pose any risks beyond those of typical daily life. There is no benefit to you. Privacy: Interview recordings and full transcripts will be shared with each interviewee. Transcripts with identifiers redacted will be shared with my university faculty along with my analysis. The interview recording, and transcript will be destroyed per IRB protocol. Contacts and Questions: If you want to talk privately about your rights as an interviewee, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Please share any questions or concerns you might have at this time. If you agree to be interviewed as described above, please reply to this email with the words, “I consent”. Closing statement – Debrief Closing statement based on recommendations from Rubin and Rubin (2012) the responsive interview as an extended conversation. Debrief: This has been great. Thank

you for your participation. You have given me a lot to think about. I will transcribe our interview and send it to you for review via e-mail to check accuracy.

Summary

The goal of this research study was to find out the lived experiences through a phenomenological inquiry of EP managers who work in the rural Pacific Northwest. The data collection and analysis followed the sequences for a qualitative study including thrust wordiness, reliability and validity. Throughout data analysis of coding, looking for categories and themes new emerging data and new information surfaces. There was a pilot study conducted to assure that the research questions answer to the question of the study. There is a great importance of collecting more information on EP in rural communities to protect and support individuals and the community. This chapter provided information on the research design for the planned study, nature of the study with a rationale, participant selection, instrumentation, sources of data, interview questions, research analysis, participant's rights, trustworthiness, and a chapter summary.

Chapter 4 will include an introduction, information on the pilot study conducted, setting, demographics, data collection, data analysis, trustworthiness, results of the study and a summary.

Chapter 4: Results

Introduction

The purpose of this study is to increase the understanding of the new EP rule and its implications in rural hospitals preparedness in the Pacific Northwest including identification of common themes emerging amongst health care facility EP personal. The intent of the study is to explore the lived experiences of the EP managers in the rural Pacific Northwest. In this chapter I will discuss the results from conducting in-depth, face- to- face interviews to explore the CMS EP Rule Implementation experiences by emergency managers in rural hospitals of the Pacific Northwest U.S.

The questions for the research study were as follows:

1. How will the lived experiences of the emergency preparation for emergency managers that work in rural hospitals in the Pacific Northwest influences the implementation of the new EP rule for the area?

2. What can be learned from the lived experiences of EP managers in the Pacific Northwest that is a valuable input regarding the EP process?

This chapter will include the pilot study, setting, demographics, data collection, data analysis, trustworthiness, results of the study, and a summary.

Pilot Study

The pilot study included interviewing two EP managers from the Pacific Northwest using the interview questions designed for this study. The interview questions led to in-depth answers that satisfied the needed answers for the research questions. The first interview took 56 minutes; the second interview took 26 minutes. Each question was

answered in detail by the participants, including detailed examples of experiences with emergency preparedness. The interview was conducted face- to- face and recorded on a digital recorder. Additionally, notes were made of observations and key words and sentences during the interview. Both hospitals are federally designated, critical access hospitals and small rural or remote hospitals with less than 50 beds that were at least 30 miles away from another acute inpatient center (Oregon Health & Science University, 2019; OHSU, 2019a). Both cities have a population less than 7,500 and both counties have a population less than 40,000 (World Population Review, 2019; Oregon Demographics, 2019). Both interviews were conducted in the hospital setting: one in an office and the other in a quiet waiting area. The interviews were conducted during a regular work day hours. Time was arranged by e-mail correspondence. Both participants answered all 11 questions, including some probing questions. As an example, to the first question related to previous experiences related to EP. P1 covered all previous experiences: "licensed paramedic, and have been involved in emergency services…over 30 years I am also a deputy sheriff for over 30 years now, I still practice as a paramedic and I still practice as a deputy, …first responder, for 11 years I was the director for the 911 district ...created a the county incident command team...have all the little certificates you ever want to see" According to P2: " my background is a nurse, ER nurse started in 95 as a trauma center nurse… worked an and ER nurse here in the emergency room, in 2006 I took an the role of emergency manager or EP lead manager and also did house supervisor lead at the same time." Additionally, both pilot study participants provided in-depth stories based in their experiences as EP managers. Both participants were white,

middle-aged males. Based on the in-depth answers the participants provided, the research questions did not need to be changed. Impact on the main study from the pilot study includes the validation of the interview questions for the study. The pilot study was included in the data analysis of the main study. Informed consent, transcribed interviews kept confidential per Walden University IRB requirements. Participants were sent the verbatim transcripts of their interviews by email to be checked for accuracy. Participants emailed their acknowledgement of correct transcript or sent corrections back to me. Some of the participants added minor changes to the transcript.

Setting

My study took place in the Pacific Northwest rural access hospitals, and rural critical access hospitals. The Pacific Northwest region includes California to British Columbia including Oregon, Washington and Alaska (Encyclopedia Britannica, 2019). Bordered by the Pacific Ocean and mountain ranges (Encyclopedia Britannica, 2019). For the purposes of this study part of the Pacific Northwest states located in the United States were used including Washington and Oregon. Washington State Department of Health (WSDH) lists 39 rural critical access hospitals in their website (Washington State Department of Health, n.d). Critical access hospitals have less than 25 beds and perform additional services in the community including long term care, primary care, physical and occupational therapy and other services as needs arise in the community (WSDH, n.d., a). Oregon has 37 rural and frontier access hospitals including 25 critical access hospitals in the state (OHSU, 2019). The hospitals are all have less than 50 beds, have different designations based on if they are rural (Type B), remote (Type A), how far they are from

inpatient hospital, if they refer patients or not (Type C) and if they are designated as a critical access hospital (CAH) (OHSU, 2019).

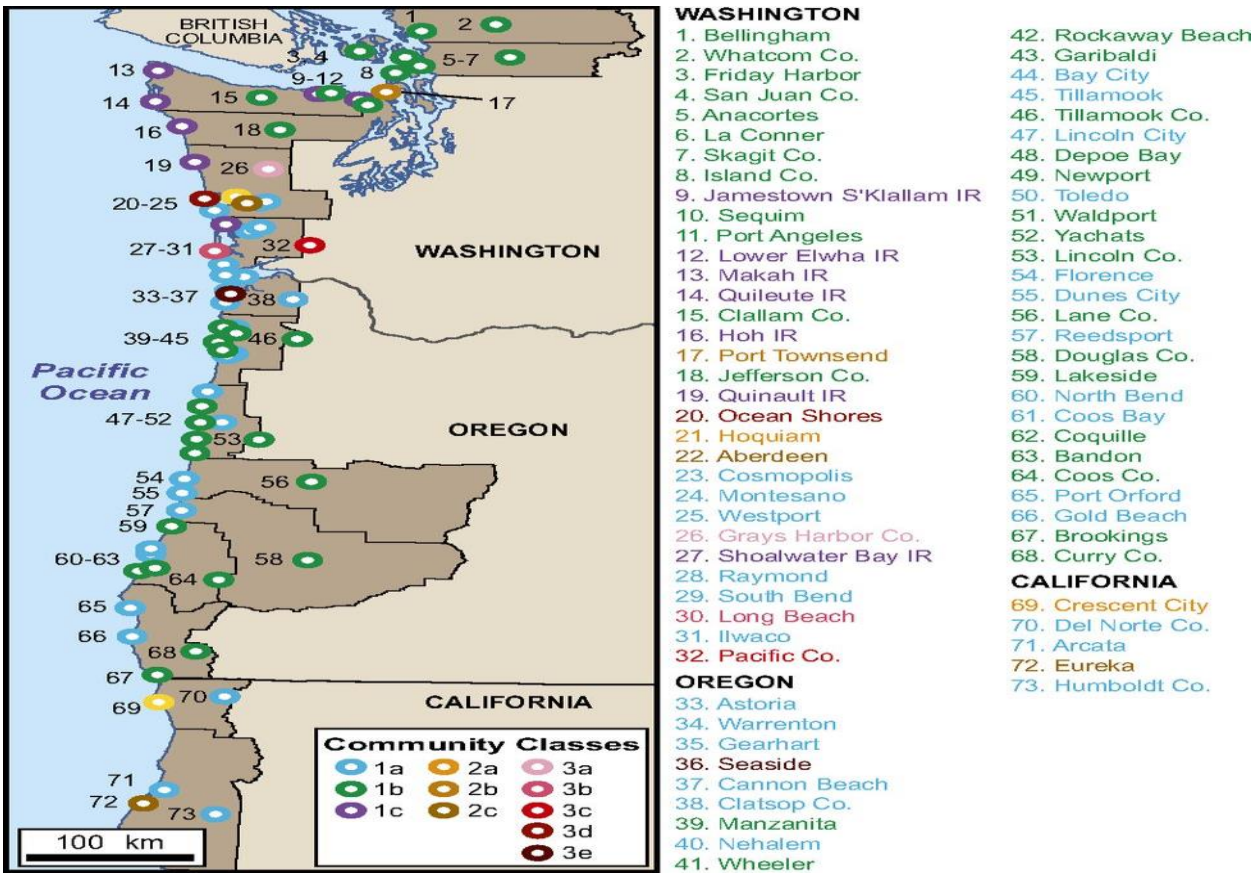

Figure 2. Map of the Pacific Northwest. Community clusters of tsunami vulnerability in the U.S. Pacific Northwest (Wood, Jones, Spielman, & Schmidtlein, 2015).

Demographics

Participant demographics and characteristics relevant to the study included EP mangers from the rural Pacific Northwest. The EP managers included employed adults whom are working in rural Pacific Northwest hospitals. All participants live or work in rural areas in the Pacific Northwest. Participants were adults included both males and

females with various age range. No specific demographics data like age or race was collected from participants. Participants included both women and men, around middle age and white. The gender was equally divided with four women and four men participated in the study. Detailed age and race information was not collected to protect participants identity. Participants had various educational backgrounds five of the eight participants had a registered nursing degree, one participant had a masters level education in EP and homeland security.

Data Collection

Walden University IRB approval was received for data collection from rural EP managers in the Pacific Northwest. IRB approval # 02-01-19-0429910. Eligible participants were working as an EP manager in rural hospitals, remote hospitals or rural critical access hospitals, in the Pacific Northwest. The EP managers were contacted by email, phone or both to recruit for the study. An invitation letter (see Appendix B) was sent to potential participants, regional EP liaisons and county emergency managers to help with recruitment. The invitation letter included this my email address and phone number in case there were any questions. I sent follow up e-mails sent to participants for recruitment, providing the consent form and interview questions (see Appendix A) if requested. Once the participant agreed to be a part of the study an interview date was set by email correspondence. Informed consents were signed right before the face to face interview. The informed consent included information about the study and contact information for this researcher and the Walden University IRB in case future questions arise. Participants were informed that they will remain anonymous and that no

information regarding the location or name of the hospital they work, nor any personnel they mention, will appear at the published study. Participant names were not used while transcribing, interviews were labeled by numbers from one to eight. Invitations were sent out to 76 rural hospitals' EP regional liaisons and EP managers serving rural and remote populations of Washington, Oregon and Idaho. The number of participants in the study included eight EP managers in the rural Pacific Northwest. In one hospital there were two interviews conducted as the EP role was split between two EP managers. The number of participants not responded to the study was approximately 65. Some hospitals may have more than one EP manger if the role is shared. The number of participants declined the study or not responded after e-mail exchange of detailed information was three. Data was collected by face to face interviews, media or phone in depth interviews, using a digital voice recorder and taking notes during the interview. All five interviews were collected in person, face to face. One interview was conducted by a media application and two interviews conducted by phone. The interviews conducted at the participant's work place in their office or an available open space. One phone interview was conducted when a participant was off work. The interviews took place during the day, during work hours. The interviews were conducted using the interview guide for the main questions and follow up questions. Two interviews were interrupted by hospital needs and recorded in two sessions. Some participants had different follow up questions than others based on the content of the information provided. Interviews on average lasted 25–90 minutes. The eight interviews totaled 120 pages of transcript. Total hours for interviews were 6 hours and 48minutes. The proposed sample size for the study was between 6-12 participants.

Each interview was transcribed by me by listening and re-listening to the recorded interview. The interviews were transcribed to a word document. Each interview transcription was sent back to the participant for content checking, corrections and providing additional information per participant preference. Personal and organizational conditions that influenced participants or their experience at time of this study that may influence interpretation of the study results included.

Data Analysis

Data analysis in this qualitative study included reading the transcribed interviews multiple times to look for similar words and emerging themes (Ravitch & Carl, 2016). Data analysis included first cycle analysis that helped identify similarities from the transcript; then I started coding the data coding included concept coding and descriptive coding (Laureate Education, 2016, a). Similar words or concepts were color coded or underlined, highlighted from each interview than organized in a table (Ravitch & Carl, 2016). Examples were found in the interviews related to the categories that started to form ideas and themes (Ravitch & Carl, 2016). NVivo qualitative research analysis software was reviewed for theme analysis (NVivo, 2019 & NVivo 2019a). Themes can be created by looking for words with similar meanings (NVivo, 2019 & NVivo 2019a). An excel and a word document was created for data analysis. In the excel worksheet each research question was represented and answers from the participants that wee specific to the research questions pulled out from the transcript for further analysis. Additionally, the two main research questions were also included in the excel worksheet analysis looking for words, concepts and ideas from the interviews that answer the two main research

questions. I read through interviews and pulled out information that seemed relevant to the main research question and the questions asked from the participants. As ideas and themes emerged, they were noted in the themes and no themes column on the worksheet. Examples of quotes from participants were pulled out from the interviews to support the found themes and answers to the research questions. Quotes were underlined and highlighted for emphasis to support ideas and themes.

Evidence of Trustworthiness

Credibility was achieved by transcribing the interviews with EP managers verbatim. I had listened to the interviews multiple times and transcribed them personally verbatim and checked for accuracy. The transcribed interviews were sent back to the participants to check for accuracy. Additionally, interpreting, describing the findings accurately that the findings reflect on what the participants intended; and by using triangulation compared observations with the interviews, to look for consistency, about what the participant said throughout the interview (Patton, 2015). Transferability was achieved by providing adequate amount of information about the study that the audience can draw connections to another similar study that could be transferred too (Patton, 2015). Additionally, codes were formed then based on the codes created themes that emerged, enhancing inter-coder reliability and validity (Patton, 2015). Dependability was implemented by qualitative fields notes, using the same interview guide, consistency of data collection during the in the person interviews, transparency of coding process, reflections and documentation and summaries on codes, possible themes as well as the research process (Ravitch & Carl, 2016). Confirmability was implemented by careful and

detailed data analysis where all themes can now be traced back to final codes that can be traced back to the verbatim transcript of the participants (Patton, 2015).

Results

In this section I present the research findings. I will describe the answers that emerged from the interviews first than show how emerged ideas and themes connect back to the two main research questions and I will also describe any discrepancies that were found in the interviews. Experiences of EP managers that I have found while analyzing the interviews included varied expertise in the field of emergency management. The EP managers had different experiences on the field, five out of eight had a nursing background and been working an emergency department nurse, two had paramedic experience, three had police experience, one had military experience, three had fire or first responder experience. Multiple experiences with drills in the hospital setting and actual events in or outside the hospital setting. Experiences and expertise ranged from 4 years to 30 years. All participants had experience with EP drill in a hospital setting.

Complexity of EP Rule

To answer the question: What you think about the complexity of adding the new EP rule in your rural hospital and community? All except one participant responded to the question regarding complexity of the new EP rule in a rural hospital setting with similar ideas feeling that there are a lot of new changes that are complex in nature without additional financial support and time to implement the required changes. Participants (1,6,7, and 8) discussed the lack of time and ability:

Participant 1: “I think it is ridiculous…so some of this stuff is just overkill…I spend 3–5% of my time on emergency preparedness, and that’s you know even makes it more difficult for the rural hospital.”

Participant 6: “We don’t have the depth or the ability to do a lot of that stuff. “

Participant 8: “In our situation most of the people that do this type of thing wear multiple hats and it just adds one more thing to their plate.”

Participant 7: “I tried to get some things together but you know like all rural hospitals we wear a lots of different hats here, and so it’s difficult to get time to work on it and it is so broad it’s difficult to you know how we do that what we do?”

Participant 5 and 8 discusses the lack of financial support:

“ We don’t have a lot of the resources, we don’t have the lot of the money and the staff to do that” and “there is no money for this we fall back into this it is an unfunded mandate whether you think it is or not it cost money and we didn’t get any more.”

Participant 2 thought that there was not much changes compared to what the hospital was already doing:

“I am in I did not really look at that as being new, just as the evolution of the role. I did not think that there was anything new or tremendously different in what they asked…we are already meeting all that stuff currently.”

Implementation Process of EP Rule

To answer the question: How did you or your team worked through the implementation process of the EP rule in your rural hospital? Most of the participants (1, 2, 3 and 6) stated that they formed a type of committee, used outside help or regional help with the updating of EP plans.

> Participant 1: “What we end up doing is the safety committee functions as our EP committee, and they view those documents”.
>
> Participant 2: “We are supported by regional emergency management, ...So any time that there is new standards or expectations they review it and usually come up with a format or plan, and how we are going to implement it.”
>
> Participant 3: “I just formed an EP committee…. am hoping to have committee members helping in all the process of doing all this especially the paperwork stuff”.
>
> Participant 6:
>
> Somebody come and completely re-write a brand-new emergency operation plan for us. Ah-um, if there haven’t been for that I don’t know how, it would have been very difficult, for us to be compliant when that rule come down because we wouldn’t of known where to start.

Two out of the eight participants (Participant 7 and 8) were still working on the implementation process. Participant 4 discussed capability assessment and creating a plan that builds capacity:

> Do some sort of an assessment a capability assessment…first things first what is the first step we are got to do, and build it from that standpoint so you can have

actually have some capacity rather than just you know get another check box marked and put in the file cabinet.

Thoughts on the EP implementation process

To answer the question, what you think about the process for to you and to your team throughout this EP implementation, participants had different ideas on what is working well and what are the gaps related to the implementation process. Participant 2 describes the lack of understanding from regional partners to the needs of small rural facilities. Participant 4 discussed getting plans from other facilities to meet the requirements. Participant 8 described the difficulty related to the overwhelming amount of information available. Two participants (1 and 7) described better preparedness related to the EP rule:

Participant 1: “Some good stuff come out of it. I think in the end. Even though I whined and sniffled about it. I think we are better prepared now. Than ever. ...we are being creative about how we are doing business”.

Participant 7: “We need to all be better prepared, and I am truly I am on board with the thing I just you know like I said we are just kind of having a hard time getting everything together. But will get there”.

Participants (5 and 6) described staff learning and teaching opportunities arising from the new implementation process:

Participant 5: “We had really focused in on the reality issues. And writing them up and using those as teaching moments. The staff are far better learning from them”.

Participant 6: “Things we find and we found a lot of holes we have communication issues and we have other things that really opened the door for more staff training that we realized we had to do so I think it’s been its been a really good process”.

Earthquake preparedness

To answer the question: How you been experiencing the implementing process of the earthquake preparedness in your rural hospital given the new EP rule changes? Participants (5, 6, 7 & 8) did not discussed earthquake preparedness in detail, it is not a major treat in the areas where their hospitals are. Two participants (6 &8) wasn’t sure if anything had been done regarding earthquake preparedness.

Participant 6: “We really don’t have; we have an earthquake I don’t even know if we have an earthquake annex, we talk about earthquakes, but I don’t know if that is anything we really drill because it is nothing that is really an issue here”.

Participant 8: “I don’t know if we do much of anything as far as earthquake preparedness. We did that we got information about that shake drop ...we talked about it but I don’t know that we really done planning to be truthful”.

Participant four seems frustrated when discussed the difficulties related to earthquake preparedness including the length of documents.

Participant 4:

Earthquake hazard annex it is probably 30 pages long and it says consider this and consider that and everything else that they had included in the guidance and it is

does not really reflect real life…no sense coming up with a plan for 2 weeks post-earthquake because you have no clue what is going to be important at that time.

Participants (1, 2 &3) discussed the challenges related to having an old building for the hospital including the possibility of the hospital collapsing during an earthquake.

Participant 1: “The earthquake thing is tough for us, because this building we are sitting in is built in 1950...I train people to do is duck, cover and hold”.

Participant 2: “ The big question is whether we would be if the building would be even here with an earthquake, the hospital is built in the 60’s and ah-um they did not really do the proper land fill you know stone and foundation work that they should of”.

Participant 3: “The hospital is old, it’s going to crumble, and I don’t want to scare too many people, but I say the chances you know probably a 7.0 or higher this hospital is going to crumble”.

Systems in emergency preparedness

To answer the question: What you think about the process of systems that work together for emergency preparedness? Participants had different experiences related to working together with local, state wide and federal systems. Most participants felt that their community will step in and support each other in a disaster. Participants (3, 4 and 5) felt that communication will be a major issue.

Participant 3: “Communications, so communications is going to be number one figuring our how we are going to contact them initially”.

Participant 4 “Communication seem to be a problem and resource management seem to be a problem. That is what a command system is supposed to do so we have tools available but again we don’t practice with them often enough to get good at it”.

Participant 5:

No matter if it is man-made or if it is natural the first thing that always screws up is communication. It is in every time in every disaster it is a first thing, we all know this everybody know this yet when the disaster happens, we can’t overcome it...always and there is no way around it.

Participant 1 felt that while local systems work well together and help each other regional, state and federal support would not come to help.

Participant 1:

I don’t think that I am going to get out any help out of anybody. Right?...although we fight like brothers and sisters at other times, we have a history to working well together...our systems work very well together...our regional partners through our ...preparedness region they want to be helpful and I think they could bring some things to the table, but I also don’t think they understand how things work in a small community.

Participants (2, 6, 7 and 8) felt that in their community they can ask for help and the

community works well together they help each other out.

Participant 2:" Well, I am in it's it's it's seems good, I am in you are going to ask your county for help and the county ask the state, I am in it's tiered….I never had to ramp up to do that you know ask for more help or go through the system, but I know the system is there I know how it works, so I am fine with it".

Participant 6:

In our county I think they work well together,...I think that you will find that most…counties they all do because we have too, because you have the same people, you have the same people doing the same things…the same people wearing multiple hats so you each other and we know we have to work together so we have very good working relationships to help each other out in incidences that normally would not happen in a bigger area.

Participant 7:" Our area...coalition I think it's a great thing I wasn't excited about it in the beginning but because I do both sides of that I enjoy it and I learn a lot from those meeting having all those people involved".

Participant 8:" I think in our area we work well together. I think everybody is out to help each other and do the best they can, you know looking out for themselves too but reaching out to see what can I do to what kind of education you need".

Disaster response

To answer the question: What response is supposed to happen in and emergency or disaster? Participants (1, 2, 3, 5, 7 and 8) responded similarly about setting up on incident command system and discuss next steps. Participants also discussed evacuation

plans and connecting with outside resources in the community like police departments, fire departments.

Participant 1: “Our emergency plan in...we use the start triage system...we activate our hospital command center...incident commander”.

Participant 2: “Well we would first open up ICS here incident command and if it was a specific hospital disaster we would reach out to our regional hospitals for support and back up”.

Participant 7:” We would alert all the…incident command and then we would assign from there what we thought was necessary. And keeping in contact with fire and police”.

Participant 8: “We have our incident command can be set up we have we have in the hospital setting”.

Participants (3 & 6) focused on evacuation and moving patients out of the building.

Participant 3: “Everybody supposed to evacuate get out as many as possible as many people as possible…get the evacuation trailers out and up to our current evacuation site and everybody supposed to meet us up there in however they can get there”.

Participant 6:

We would assess the damage, and then we do have MOU’s in place for alternate care sites so we would assess that capability, and what are the building defunction is and then if we had to laterally move our patients to another part of this building

or if we needed to move our patients to one of our alternate care sites we got everything set up so we can do that quite easily.

Improvement in prevention efforts

To answer the question: How you think prevention efforts can be improved for future emergency events or occurrences? Ost participants thought this is a difficult question. One participant (3) did not provide and answer. The other participants had different experiences on improvement needs including simplification in the emergency response process, the need for financial and administrative support and resources, staff education and training and lack of community preparedness.

Participant 2 on community preparedness: “The community you know is not prepared take care extra people…no administrative support they are not on board they have no clue, what to do in an emergency and I am not going to be the one that says that they do”.

Participant 4 on simplification:” I think we simplify things; we focus on what is important and we build capacity...I would simplify preparedness”. In further explanation participant 4 gave specific examples on how to simplify preparedness:

Simplify…I got to have a plan for that if I survive 3 minutes the next thing that’s going to kill me was in 3 hours in inclement weather if I don’t have shelter within 3 hours without shelter I can be dead...If you get through that period within 3 days if I don’t have my portable water, I have a real problem.

Participant 1 on financial resources: “The government can pay us (laugh) to put the exercises on. Ah-um so here in our community we have to work with our volunteer fire departments to do exercises. That is sometimes very tough and because they are actually spending resources to help us out”.

Participant 5 on resources and population education: “(Sigh) This is a tough one, (pause) you know we always want something; we always think that gadgets make a difference, but honestly if you I think it really depends on your area. ...if you could convince every human being in the city to have 3 days’ worth of water and food that’s on hand you buy yourself a lot of time”.

Participant 6 on resources and sharing: “(pause) That is a tough question,….making it easier for people to cross lines to help making it easier for hospitals to share resources you know blood, you know different things that we might need so maybe we all have the same things,...So I think making it easier for resource sharing”

Participants (7 & 8) discussed the need for staff and population education and training.

Participant 7:

Oh, we just need a lot more training with different types of disasters you know, …just more training for staff. That would be that’s what my number one goal is. So, they know what to do. …Yeah, the sky is the limit. We need help with all sorts of things but that would be my number one thing is that just to get training for the staff so that they are safe.

> Participant 8:" I really like to see is education getting out there. Out to the public, out to our staff getting out to everybody because I think that most people have the mentality in an emergency, I don't have to worry about it somebody else is going to come and take care of me and that ain't going to happen".

EP process

To answer the question: Is there anything else regarding the EP process you would like to share? Participants responded with multiple complex elements that are required to be in place for preparedness from pre-staging to communication. Additionally, participants discussed real life expectations ad realistic scenarios, the need for additional support from the government and each individual's responsibility in preparedness. One participant had (2) did not share any additional information regarding the EP process.

> Participant 1 on planned exercises: "We need to make our EP exercises as realistic and reasonable as possible…one of the thing is that we built in is being able to take a time out, so to make sure if something goes wrong, we stop it we fix it, so it doesn't snow ball, and we want people doing that in real life too".
>
> Participant 3 on planning: "I don't know (pause) you can't plan for everything…. try to use your common sense and think outside of the box…I don't know you just can't you can't put everything into an emergency operations plan. Something is going to be different every single time".
>
> Participant 4 on safety and priority: "The incident command system is a good tool the priorities that come with the incident command system will work but we all

need to adopt it and use it. And what I mean by that is that life safety is number one. …. life safety issue we address that first".

Participant 5 on communication and pre-staging: "(sigh) I think you know ultimately if we could fix the communication… It would help if we have some pre-staged hard stuff".

Participant 6 on needed support:" More guidance on you know what's required, I think what's required is kind of vague so I think you can interpret it any way you want…. I don't know if what we are doing is right".

Participant 7 on funding needs: "I guess it doesn't matter but corporate America needs to realize that this is an important issue. That they need to put some funding out for it. They don't want to do that, but they need to. Very very important thing".

Participant 8 on complexity and responsibility: "Big job. And it's a lot of components to it and there is stuff I never thought about until I kind of got into it I was one of those people that's somebody else job I don't have to worry about it but it's really everybody's job".

Issues to address in EP

To answer the question: Are there any topics or issue you that I did not ask you about and you would like to see addressed regarding emergency preparedness? Participants (4 & 7) stated no, other participants explained multiple issues regarding staff training, financial support, hospital accountability, planning and education and raising public awareness.

Participant 1 on staff training:" We have a first day orientation…it covers all of the EP stuff that you can face as an employee and what your responsibility is… Day one when you walk in if something bad happens day one you are not going to die, you are going to know what is expected of you".

Participant 2 on financial need: "We are still have a long way to go it is money it is expensive, you know it is not a return on investment, kind of position. I don't make money for them I spend money, so that is hard for businesses to look at".

Participant 3 on hospital accountability:" I think that the rules that are in place is helping because it is making the hospital administration be accountable in order to pass their assessments to get their funding, so they know it is has to be done".

Participant 5 public education and individual accountability:" I think honestly community, public awareness inside of cities seems to be the single biggest thing you know…we don't have that mentality of preparedness...We as a society don't embrace that everybody doing their part".

Participant 6 on financial support:" I think funding is always an issue, being able to have the things you need or have money out there to help you do things…. I think it would be nice to have some money out there to help small facilities prepare for disaster not have to kind of punt, I guess".

Participant 8 on planning and education:" The biggie is planning and education. Planning and finding the time and the time and the energy (laugh) to do it you know that's the biggie trying to find enough time in the day to get it all done".

To the last question if there were anything else participants would like to add regarding any of the questions or anything else all participants stated that they do not have anything to add or they cannot think of anything.

Research Question Analysis

Research question 1: How will the lived experiences of the emergency preparation for emergency managers that work in rural hospitals in the Pacific Northwest influences the implementation of the new EP rule for the area? The themes that show a connection to the first research question include lack of financial stability in preparedness, the need for more education and training for staff and the public. All participants addressed difficulties related to funding and sustainability in emergency preparedness.

Lack of financial stability

Financial issues and difficulties come up in all interviews, funding and support seemed to be more difficult to get in a small rural hospital based on the experiences of the EP managers.

> Participant 1: “They have decided to hold me hostage and said that if you are not keeping it updated than we are not going to you are not eligible to any grant funds”.
>
> Participant 2: “You know we had a huge amount of money that come after 911 for equipment, for planning, all that stuff and it’s all dried up. Depends on who is involved in this and what their priorities are”.

Participant 3:" I can spend some money on doing things and buying equipment, they need you know not huge amounts of money, but you know I am trying to write grants to save them money".

Participant 4: "It's very though, it's very tough both from and expertise standpoint and both from a financial standpoint the time commitment ah-um the expertise".

Participant 5:" This it is an unfunded mandate weather you think it is or not it cost money and we didn't get any more. All you doing to hospitals every year is cutting the reimbursement".

Participant 6: "I think funding is always an issue, being able to have the things you need or have money out there to help you… if you are not compliant with this rule than we are not going to pay you".

Participant 7:" Corporate America needs to realize that this is an important issue. That they need to put some funding out for it. They don't want to do that, but they need to. Very very important thing".

Participant 8:" It's hard on to institute on the people because we don't have a lot of the resources we don't have the lot of the money and the staff to do that and in our situation most of the people that do this type of thing wear multiple hats".

Training and Education need for Staff and the Public

All participants discussed the need for staff education and training. Some participants been able to do trainings at their hospitals and felt that staff was prepared others did not feel that staff and the public is prepared or engaged enough. Participants (2 & 3) discussed difficulties with staff engagement for training.

Participant one discussed first day hires in EP training:" they are trained at day one" additional training includes:" I train people to do is duck, cover and hold" and "we can do more robust training with these people".

Participant 2 talked about difficulties in staff engagement for EP training:" Everybody talks about having your staff prepared and having plans and being self-sufficient. Ah-um it's just doesn't happen. It never happens, you know you we continue to remind them so getting your staff to even step up and be prepared".

Participant three also discussed difficulties with staff engagement: "The nurses on that unit were just mad that we did it because it just disrupted their whole you know flow of the work day or something. Same thing with the fire drills".

Participant 4:" A lot of the smaller facilities did not have the dedicated staff to spend the time".

Participant 5 discussed the perspective on bigger hospitals and training: "They don't have the oversite they don't have the feedback, they don't have the education, you know when you come to work in a big hospital and all you do for 12 hours is run salad you know we have some down time". Participant 5 felt that the small rural hospital has more time to train nurses:" ER nurses here are very well trained and they have a very high standard".

Participant 6 on staff training: "We have communication issues and we have other things that really opened the door for more staff training that we realized we had to do".

> Participant 7 on staff training: “We need to do a little more education looks like…need a lot more training with different types of disasters you know…just more training for staff”.
>
> Participant 8 on staff and public education:” I really like to see is education getting out there. Out to the public, out to our staff getting out to everybody…you need to be prepared to take care yourself and I think especially in a rural area like us that has miles and miles of county to cover we don’t have enough people to stretch that far. So, I think we need to teach people”.

Research question 2: What can be learned from the lived experiences of EP managers in the Pacific Northwest that is a valuable input regarding the EP process? The themes that show a connection to the second research question include overwhelming tasks and expectations from EP managers, funding problems and various ability to do preparedness exercises. All EP managers mentioned communication and funding issues as major difficulties in their jobs.

Overwhelming Tasks and Expectations

All participants discussed some level of difficulties related to their job an EP manager in a small rural hospital. All participants had multiple job responsibilities and being an EP manager was just one of their roles in the hospital. Participants (1, 3 & 4) had multiple job responsibilities.

> Participant 1 describes the job responsibilities: “I am the executive director for strategy, in business development, marketing has been part of my portfolio, I am the safety director I am the emergency manager, responsible for community

health, needs assessment, community health plan, and community benefit reporting".

Participants (2, 5, 6, 7 & 8) were emergency room nurses, nurse managers as well as EP managers.

Participant 2 described job difficulties: "Maybe they are not really qualified for the job or the job is not exactly what they think it is so they take the job and figure out exactly what they need to and it is overwhelming and then either they can't meet it or won't meet the requirements of the job so than they look for another job".

Participant 3 describes what the previous EP manager left behind and current obstacles:" I learned that he really neglected that part of it because he had way too much to do…I am so busy, so I understand the previous…manager dropping the ball…still don't feel like I got anything accomplished. I can start things, but I got so many things started that it is starting to become overwhelming".

Participant 4 on job difficulties and expectations:

So many small communities or critical access hospitals the person doing the emergency management job that is duties as assigned you know, very few facilities and organizations have a full time person that that is all they do so it is really tough expect that they are going to be able to devote the time and the effort to accomplish something.

Participant 7:" The reason that I took the job was because I know that we were ill prepared. And it makes me feel unsafe and I feel responsibility…we are just kind

of having a hard time getting everything together…we need help with all sorts of things".

Participant 8:" The only thing I can think of is a big job. And it's a lot of components to it and there is stuff I never thought about until I kind of got into it…it's just a big job".

Funding Problems

Funding problems and examples were discussed also under research question one luck of financial stability. All research participants had described some kind of difficulty related to funding. Funding difficulties included not being able to get grants if there is a lack of compliance, lack of funding and support from hospital administration and federal government. Additional difficulties related to the size of the hospital and being in a rural area compared to a metropolitan hospital where there are more supplies and resources are available in a disaster. Another issue that was discussed is the potential for lack of payment for patients. A perspective from participant 6 included:" I think it is all going to tie to payment it's all tied to payment so I think they are just trying to institute all of these rules so that they can just say come up with reasons not to pay for services".

Various ability for preparedness exercises

EP managers had different experiences and abilities to provide EP exercises for hospital staff. One difficulty discussed was related to funding, explained by participant 1:

The government can pay us (laugh) to put the exercises on…work with our volunteer fire departments to do exercises…I think you know strengthening those relationships is important we have great relationships here, we are lucky for that,

> they want to play those exercises… we need to make our EP exercises as realistic and reasonable as possible.
>
> Participant 2 describes an exercise drill:" So yeah we bring up a crew up there and will set up, we will take over a building and bring our trailers full of our portable gear and will set up a mobile hospital for it and it went great".
>
> Participant 3 described:
>
> Annual training and testing...training the people to know what to do when the code is called over head or if you feel the building start to shake what are you going to do…a lot of the changes come about that year but the...manger he did what he could, we did not get a full scale exercise in, but if we have like a real live event it counts toward those full scale exercises and we had a generator failure when the power outage occurred so we can count that as a full scale exercise.
>
> Participant 6 on trainings:" We are supposed to have like department specific trainings…really opened the door for more staff training that we realized we had to do so."

Participant 7: "We just need a lot more training with different types of disasters…We need help with all sorts of things but that would be my number 1 thing is that just to get training for the staff so that they are safe".

Participant 8:" The biggie is planning and education. Planning and finding the time and the time and the energy (laugh) to do it you know that's the biggie trying to find enough time in the day to get it all done".

Communication issues

All participants discussed possible problems and difficulties with communication and previous experiences with communication problems.

Participant 2 on communication:" You will probably have 30% staff trying to find their family or trying to get communication before they would be actually able to focus on caring for the huge amounts of people that are going to show up here".

Participant 3 on communication:" Communications, so communications is going to be number one figuring our how we are going to contact them initially… communication is the most important part".

Participant 4 on communication:

Communication seem to be a problem and resource management seem to be a problem…we built that document based on assuming that we are going to have no communication with each other…the after-action report says there was a problem with command and control there is a problem with communication and there is a problem with resource management".

Participant 5:

As far as communication goes that was already in place, we just updated the plans to note…No matter if it is man-made or if it is natural the first thing that always screws up is communication. It is in every time in every disaster it is a first thing, we all know this everybody know this yet when the disaster happens, we can't overcome it…its horrible here so we are always going to have a communication issue".

Participant 6 on communication: “We found a lot of holes we have communication issues”.

Participant 7 on communication: “Between Idaho and Oregon there is issues with communication, which we are working on ah-um, so it’s difficult for the right hand to tell the left hand what to do when we all need to be working together”.

Discrepant cases had been found in some interviews related to the EP rule including participant 7 stating:” I do think it was a good rule” while no other participants mentioned that it was a good rule. Participant 2 did mention that there was not much changes from what previously being done:” I did not think that there was anything new or tremendously different in what they asked”. Other participants stated that the rule was too much or too overwhelming for their small rural hospital.

Summary

The purpose this qualitative phenomenological study was to gain insight into the lived experiences of implementing the EP rule and gain input about the EP process of EP mangers in the Pacific Northwest. Participants were recruited by sending out e-mails to small rural hospitals in the Pacific Northwest. The transcribed data from the verbatim interviews revealed emerging themes. The answer to the first research question, How will the lived experiences of the emergency preparation for emergency managers that work in rural hospitals in the Pacific Northwest influences the implementation of the new EP rule for the area? can be summarized by difficulties in EP management related to the lack of financial stability in preparedness and the need for more education and training for staff

and the public. All participants discussed difficulties related to challenges to get and maintain funding and sustainability in emergency preparedness.

The answer to the second research question, What can be learned from the lived experiences of EP managers in the Pacific Northwest that is a valuable input regarding the EP process? can be summarized by overwhelming tasks related to EP including the EP rule implementation and high expectations from EP managers whom were dealing with lack of time and resources, funding problems and various ability to do preparedness exercises. All EP managers mentioned communication and funding issues as major difficulties in their jobs.

Chapter 5 will include an introduction section, interpretation of findings, limitation of study, recommendations, implications and a conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

EP planning helps save the lives of individuals and their communities (Liu et al., 2018). New EP rules were developed to assure safety and quick recovery after a disaster. The purpose of this phenomenological study was to increase the understanding of the new EP rule and its implications in rural hospitals' preparedness in the Pacific Northwest, including identification of common themes emerging amongst health care facility EP personal. The phenomenon of interest was the lived experiences of EP managers in the rural Pacific Northwest, and how those experiences related to the EP rule implementation, and to the EP process. Phenomenology allowed me to look at a phenomenon of lived experiences of EP managers (Creswell, 2014). To answer the questions, a phenomenological approach was used with in-depth interviews. The interviews were done face to face, by a media application and by phone. All of the interviews were recorded using a digital voice recorder, then transcribed verbatim into a Word document. Once transcribed, all interviews were sent back to the study participants to check for accuracy. Main findings from the participants included lack of financial stability, the need for more education and training for hospital staff and the public, overwhelming tasks related to EP, the EP rule implementation, high expectations from EP managers, lack of time and resources, various ability to do preparedness exercises. This chapter includes the interpretation of study findings, limitations of study, recommendations, implications and a conclusion.

Interpretation of Findings

The study looked at EP managers and their experiences. It was guided by two research questions:

1. How will the lived experiences of the emergency preparation for emergency managers that work in rural hospitals in the Pacific Northwest influences the implementation of the new EP rule for the area?
2. What can be learned from the lived experiences of EP managers in the Pacific Northwest that is a valuable input regarding the EP process?

Based on the interviews with the eight EP managers, there are multiple areas where things are going well in EP and yet there is also room for improvements. Multiple themes and ideas emerged from the interviews with the EP managers, for example, communication, finances, difficulties related to the EP rule implementation. Communication and financial stability, along with training and education for staff, were the top priorities.

Based on findings of previous literature review in Chapter 2 this research confirmed the need for additional education and staff support for nurses in small rural hospitals. Hammad et al. (2017) and Liu et al. (2018) previously found the need for increased staff education for nurses in the hospital setting related to EP and what to do during a disaster. My findings confirmed the need for staff education and training. Liu et al. (2018) and Levinson (2018) also emphasized the need for better communication and that hospitals could benefit from increasing collaboration with outside agencies for disaster preparedness. My study had found that many small rural hospitals do well collaborating with other local agencies, including county EP managers, police, and fire

departments. The participants felt that it is an integral part to work well together and many felt that that was the only choice in a small community. Communication was a concern for all the participants in my study confirming other previous findings that described the need to better communicate both internally and externally with other agencies during a disaster. Hospital preparedness was another aspect discussed in the literature review. Based on the findings of Mellow et al. (2018), Ramsey et al. (2017) and Elko (2017) essential elements include hazard risk assessment, policies and procedures, communication plan staff trainings and community drills. Based on my study findings the findings from the small rural hospitals at least one hospital was not doing specific drills for disaster preparedness, another hospital was not sure what they are doing is correct others have limited resources and administration or staff support for trainings. Policies and procedures were in place in all hospitals.

Taschner et al. (2017) also described the needs for identifying finding resources and training needs for the hospitals. My study had confirmed the need for funding and the need for additional training in small rural hospitals. EP managers discussed the need for more guidance on trainings needed and asked for governmental and administrative funding support for adequate preparedness. VanVactor (2016) and Obaid et al. (2016) identified regional coordination, building relationships and increased staff knowledge needed to have a successful disaster response. Confirming the previous findings by VanVactor (2016) and Obaid et al. (2016) all EP managers in my study emphasized the importance of regional support and coordination for success and the importance of pre-planning for disasters including pre staging supplies and knowing who to contact to get

what they need if a disaster happens. Additionally, staff training and support for additional training needs was also mentioned by all EP managers, furthermore in addition preparedness for each individual was also emphasized as an important part of preparedness.

Specific to education and training it was described by Shipman et al. (2016) and Liu et al. (2018) that additional training and education is needed for nurses in a disaster. In my study findings all small rural hospital EP managers discussed the importance of education and training. Two out of the eight participants felt that their staff was well prepared for disasters others felt that there is more training and education is needed areas varied from evacuation, fire drills, general knowledge and included additional hospital staff beyond nurses and the community at large. Additionally, lack of funding was brought up my most EP managers as an obstacle to additional training and drills. Looking at resources my findings corresponded with Obaid et al. (2017) that rural communities have less resources and more difficulties responding to a disaster. My study had found that there is not enough staff in small rural community hospitals to respond to a major natural or men-made disaster. The hospital EP managers were willing to help, all of them stated that their resources would run out quickly and they need additional back up support in case of an emergency or disaster.

Table 1

Emerging Themes

Research Questions	How will the lived experiences of the emergency preparation for emergency managers that work in rural hospitals in the Pacific Northwest influences the implementation of the new EP rule for the area?	What can be learned from the lived experiences of EP managers in the Pacific Northwest that is a valuable input regarding the EP process?
Themes	• Lack of financial stability in preparedness. • The need for more education and training for staff and the public.	• Overwhelming tasks and expectations • Funding problems • Various ability to do preparedness exercises. • Communication issues.

Study Findings and Theoretical Framework: Complexity Theory

Complexity theory was used as part of this study to explain EP management and its components as it relates to the EP rule implementation and experiences of EP managers. Complexity theory was previously described in detail Chapter 2. Complexity theory emphasizes that individual parts of any system work separately but form a response together that creates a system behavior or reaction and this reaction is based on the exchange of information between individuals (Thomson et al. 2016; Reed et al. 2018; Brand et al. 2015). Complexity theory fits the EP system as the system has multiple parts that work separately including but not limited to facilities, personnel, communication, supplies, available resources, but form a response together to a disaster or emergency (Thomson et al. 2016; Reed et al. 2018). In my study the SHIFT -evidence framework was used (Reed et al. 2018). Principles of the framework include three elements act

scientifically and pragmatically, embrace complexity and engage and empower, each principle have four additional elements included (Reed et al. 2018).

Act Scientifically and Pragmatically

Elements of this rule include seeking to understand problems and opportunities, in this case the experiences of EP managers in small rural hospitals in the Pacific Northwest (Reed et al. 2018). This element was embraced by seeking out rural EP managers and providing an opportunity to being interviewed to understand their everyday problems and opportunities. An in-depth interview was conducted with each EP managers. The interviews highlighted different ideas, themes and issues including but not limited to funding resources, staff and population training, communication, overwhelming tasks, high expectations, various ability for working on EP exercises. An additional element includes identifying, testing and iteratively developing potential solutions (Reed et al., 2018). Solutions were suggested in the interviews by EP managers included administrative support, staff support and engagement, governmental support for guidance of how to interpret the EP rule, support in how to train for disasters, communication support and financial support.

The next element is assessing whether improvement is achieved, and capture and share learning (Reed et al. 2018). There were differences between hospital preparedness based on if the hospital was part of a regional group and had additional support from being part of a hospital system or if it was a stand-alone hospital. Some of the hospitals seemed to be better prepared than others this also was dependent upon the experiences, involvement and expertise of the EP manager working at the hospital. The more

experienced the EP manager was the better prepared the hospital seemed. The last element in this rule includes investing in continual improvement (Reed et al. 2018). Based on the findings all EP managers were interested in improving disaster preparedness and doing what needs to be done regarding the implementation of the EP rule. All preparedness managers felt there could be additional support financially from the government, time commitment from staff an administration for further improvements in preparedness.

Embrace Complexity

The first element in embracing complexity includes understanding processes and practices of care (Reed et al. 2018). I believe that the interviews highlighted many elements of how currently the EP process works including initiating the incident command system and working internally as well as outside partners of county, police, fire, regional and state support when a disaster happens. The second element includes understanding the types and sources of variation (Reed et al. 2018). Each hospital was different based on what is important in the area, size, resources, available personal to respond. Each area in the Pacific Northwest have different type of threats that could include but not limited to fires, floods, tsunami, earthquakes, power failures. Hospital EP managers and staff prepare based on the hazard assessment and perceived treats in the area. Another element includes identifying systemic issues (Reed et al. 2018). Certain systemic issues were identified as most importance by all EP managers including funding issues, communication and staff training. The final element in this rule is seeking political, strategic and financial alignment (Reed et al. 2018). Financial support was

identified by all EP managers as a need to be able to perform well when a disaster happens. It was identified that funds seemed to increase after a disaster then dry out. Many of the EP managers identified the need for additional support from the federal government.

Engage and Empower

The first element in engage and empower is actively engaging those responsible for and affected by change (Reed et al. 2018). The EP managers all asked for support which is the first step of engagement and speaking out for additional resources needed. All EP managers were already building connections with local and regional resources as well as engaging in conversations with their own institutions about additional resources that needed to increase safety and a successful response in a disaster. Additionally, all EP managers were very interested in seeing the results of this study to learn from what other facilities are doing. The second element includes facilitating a dialogue (Reed et al. 2018). Based on the EP manager's descriptions some of the discussions were currently happening in conferences and coalition or regional meetings as well as during local drills and exercises. The third element is foster a culture of willingness to learn and freedom to act (Reed et al. 2018). All EP managers had an open mindset to learn more about emergency management and disaster response. The final element in engage and empower is providing headroom, resources, training and support (Reed et al. 2018). The hoped outcome of this study is to continue the conversation of the resources and support needed for rural small hospital EP managers to prepare for disasters. The goal for this study is to facilitate and enhance opportunities for further conversations among EP managers. Study

findings will be reported to all participants as well as to Oregon Health Authority EP section.

Limitations of the Study

Limitations of the study include that there were eight interviews that included small rural hospitals in the Pacific Northwest. Small rural hospitals in other areas of the United States might have different experiences then the EP managers I interviewed. The study is not generalizable to all rural areas. Limitations to trustworthiness include tat questions that I asked from the participants were simple, clear, open ended, easily understandable, exclude bias, and use words that are non-irritating, free of assumptions regardless it had triggered emotions from participants including frustration and disbelief of current practices in EP management (Patton, 2015; Rubin & Rubin, 2012). In this research I did not ask any embarrassing or personal questions from the participants, the questions were directly related to EP and did not place the participants in risk in any way. Regardless of my effort's participants did share personal information during the interview about their life and previous experiences that I did not include in my study findings as they were not directly related to my questions. My questions were open ended, probing and used follow up questions to get the in depth meaning that I was looking for throughout this research project (Patton, 2015; Rubin & Rubin, 2012). I did not get in depth answers from all the participants for each question and sometimes not used probing questions if they did not seem appropriate when the participant did not show in depth knowledge or experience related to the topic area. I turned my interviews into data verbatim transcription from spoken words that were recorded into the written language

(Halcomb & Davidson, 2006; Sutton & Austin, 2015; Smith & Firth, 2011; Rubin & Rubin, 2012). Halcomb and Davidson (2006) outlined the need to be close to the data in phenomenological studies and during transcription process I listened to the same sentences and phrases multiple times to make sure I got them current and I listened to whole paragraphs again. Salma Debs-Ivall described using verbatim transcription and words in her dissertation to keep the meaning of the original interview and I attempted to do the same (Laureate Education, 2017). It was my responsibility to look for alternative data, negative cases, and their explanations, keep being open minded during organizing and analyzing the data and report alternative findings and their exploration (Patton, 2015). Additionally, used triangulation to show credibility by comparing observations with the in-depth interviews, looked for consistency to see if there are conflict or not about what the participant said throughout the interview (Patton, 2015). To increase trustworthiness and authenticity of the research the results are reported objectively, looking at the interviews from multiple sides and present both sides of knowledge and positive experiences (Patton, 2015). Limitations include that all data transcription and analysis was done by me and the results shows my interpretation and understanding of the interviews. Another person might have interpreted the findings differently.

Recommendations

Recommendations based on study findings include increasing the stability of financial support for small rural hospitals in the Pacific Northwest. Increased support could come from multiple sources including grants, local and federal governments, hospital administration and the community. Increased support and guidance from the

government on how to work with the EP rule, how to interpret the rule and how to implement the rule to create a more unified response process from all hospital systems. Based on the findings small rural hospitals seem to have difficulties related to limited resources and staff time to adequately prepare for emergencies and disasters. Based on the findings I recommend close partnerships with other hospitals in the region and across state lines. Additionally, building close partnerships and relationships with county and regional EP teams. Involving the community in EP by providing education support for individuals to better understand what happens in a disaster and what support their hospital and region can provide as well as what is the individual's responsibility in a disaster. Additional education and staff as well as community training also would be beneficial to increase the capacity to respond in a disaster.

Implications

Implications based on study findings include that additional hospital administration and governmental support needed for small rural hospitals in the Pacific Northwest region to increase effectiveness and ability for small rural hospital EP managers to provide a safe response during disasters and emergencies. Further exploration from other areas of the United States could add additional highlights of the need for small rural hospitals preparedness needs. This study with more exploration could provide an input for governmental agencies and rural hospitals to provide additional financial support and time for EP managers for EP preparations.

Positive Social Change

Positive social change implications related to this study include possible policy and protocol change in emergency preparedness; increased training and education related to emergency preparedness; increased knowledge by EP coordinators and other stakeholders based on the presented research findings on how other hospitals in the region address emergency preparedness. Additionally, applying the evidence that was found in the research to practice in additional health care settings and identifying potential gaps for future research to support the small rural communities and hospitals in Pacific Northwest and potentially in other regions (Laureate Education, 2015). The presented results can be used to inform stakeholders representing small rural communities including policymakers about the struggles small rural hospitals facing in EP resulting to change existing policy and protocols related to EP in Pacific Northwest. Additionally, supporting advocacy by raising awareness about the current state of small rural hospitals and their struggles with the new EP rule implementation. Positive social change impact includes that this study could provide increased knowledge and support Pacific Northwest hospitals and communities to be better prepared for emergencies by learning from the experiences of EP managers in the field. I believe that this study was able to help provide information on the current implementation process of EP and highlight areas that work well and areas that need improvement; to support additional rural hospitals in the Pacific Northwest; and other rural areas in the United States. Possible social change outcome of the study can be decreasing morbidity and mortality in the Pacific Northwest by improving disaster preparedness outcomes. Implications of social change included learning about the EP mangers experiences that highlighted areas

that work well in the community, and areas where support is needed. Based on the experiences from the Pacific Northwest other rural communities can change their decision-making process related to what is working in this community and how that could be applied to improve EP in their small rural community.

Conclusion

The goal for this EP study was to gain insight form EP managers about their experiences related to the EP rule implementation and the EP process. The in-depth interviews with the EP managers highlighted areas that work well in small rural hospitals in the Pacific Northwest and areas where the EP managers have difficulties. The study identified areas that work well in rural EP and areas that need additional work and support from local and outside governmental agencies. An important message from EP mangers included that they cannot do this alone. EP is everyone's responsibility. The hospitals and county responders will not be able to get to everyone and it will take a lot of time for federal or military help to arrive especially in major disasters. While small rural hospitals working on EP need more support and help that include financial needs, resources, staff preparedness improved communication and more exercises local communities including every individual living in the community are also responsible for their own preparedness. The hospitals will not be able to save everyone or get to everyone in time, simply they do not have the resources.

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Appendix A: Interview Questions

1. Let's begin with what you can tell me about your experiences with emergency preparedness?

If indicated probing question:

1.a. Please describe more about your experience.

Additional probing questions can include based on information provided:

1.b. Please tell me more about this experience.

1.c. Is there anything else you would like to add regarding this experience?

1.d. How did this experience made you feel?

1.e. Anything else you would like to add?

2. What you think about the complexity of adding the new EP rule in your rural hospital and community?

Additional probing questions can include based on information provided:

2.a. Please tell me more about this experience.

2.b. Is there anything else you would like to add regarding this experience?

2.c. How did this experience made you feel?

2.d. Anything else you would like to add?

3. How did you or your team worked through the implementation process of the EP rule in your rural hospital?

If indicated – probing question: -

3.a. Please give me an example.

Additional probing questions can include based on information provided:

3.b. Please tell me more about this experience.

3.c. Is there anything else you would like to add regarding this experience?

3.d. How did this experience made you feel?

3.e. Anything else you would like to add?

4. What you think about the process for to you and to your team throughout this EP implementation?

If indicated – probing:

4.a. Please tell me more about this process.

4.b. Additional probing questions can include based on information provided:

4.c. Please tell me more about this experience.

4.d. Is there anything else you would like to add regarding this experience?

4.e. How did this experience made you feel?

4.f. Anything else you would like to add?

5. How you been experiencing the implementing process of the earthquake preparedness in your rural hospital given the new EP rule changes?

Possible probing if needed:

5.a. Please tell me how the earthquake EP is going.

5.b. Additional probing questions can include based on information provided:

5.c. Please tell me more about this experience.

5.d. Is there anything else you would like to add regarding this experience?

5.e. How did this experience made you feel?

5.f. Anything you would like to add?

6. What you think about the process of systems that work together for emergency preparedness?

6.a. Can you give me an example?

Additional probing questions can include based on information provided:

6.b. Please tell me more about this experience.

6.c. Is there anything else you would like to add regarding this experience?

6.d. How did this experience made you feel?

6.e. Anything else you would like to add?

7. What response is supposed to happen in and emergency or disaster?

Additional probing questions:

7.a. Can you tell me more about the response process?

7.b. Anything else you would like to add?

8. How you think prevention efforts can be improved for future emergency events or occurrences?

Additional probing questions:

8.a. Can you please tell me more about this process?

8.b. Anything else you would like to add?

9. Is there anything else regarding the EP process you would like to share?

Additional probing questions can include based on information provided:

9.a. Please tell me more about this experience.

9.b. Is there anything else you would like to add regarding this experience?

9.c. How did this experience made you feel?

9.d. Anything else you would like to add?

10. Are there any topics or issue you that I did not ask you about and you would like to see addressed regarding emergency preparedness?

11. Anything else you would like to add?

Appendix B: Invitation

Invitation:

Hello, (will add participant name)

I hope this invitation finds you well.

I am in the Walden University PhD program. As part of my dissertation, I chose to pursue a qualitative research study on EP and looking for EP managers in rural Pacific Northwest hospitals to conduct interviews. I hope you would be interested in participating in my study. The interview process will include completing an Informed Consent statement (I'll e-mail this to you); and allowing me to e-mail you the list of interview questions and connect with you in person. The whole process should take no more than 90 minutes of your time. IRB approval # 02-01-19-0429910.

Please let me know if you would like to participate.

I would like to begin the process by 2/1/19 and finish the interview by 4/1/19.

You can contact me by phone 425-346-0061, e-mail gabriella.korosi@waldenu.edu if you have any questions.

Thank you,