

EMERGENCY PREPAREDNESS AMONG OLDER ADULTS IN ISSAQUAH,
WASHINGTON

A

PROJECT REPORT

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Abstract

Using the Health Belief Model, this project practicum explored emergency preparedness through interviews with fourteen study participants sixty-five years old or older and three key informants. The goals of this project practicum were to understand the potential needs of adults sixty-five years old and older in an emergency or disaster and to improve the effectiveness of emergency outreach education and messaging. Prior storm experience and reported time living in Issaquah appeared to influence preparedness activity among study participants. Exposure to media and emergency preparedness messaging appeared to have a lesser effect on emergency preparedness activity. Project practicum results suggest that help from neighbors, friends, and family may be the best way to keep vulnerable older adults safe in an emergency or disaster. Thus, these neighbors, friends, and family need to know about emergency preparedness even though it seems to be less effective than life experience. The City of Issaquah appears to be on the right track educating people with its Map Your Neighborhood, Citizen Emergency Response Team training program, and its emergency preparedness booths at community events.

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Chapter 1

Background and Review of Literature

Oxford University Press (2014) defines disaster as “a sudden event...that causes great damage or loss of life” and an emergency as “a serious, unexpected, and often dangerous situation requiring immediate action”. Only 3% of snow and ice storms occur in the Western United States (Changnon, 2002). However from January 16 to 19, 2012, a large storm hit Western Washington (Office of the Washington State Climatologist, 2012) causing hazardous conditions.

Approximately 500,000 people lost power during this storm (Office of the Washington State Climatologist, 2012). In many cases, this meant no heat and in some cases no water. In Issaquah, three to six inches of snow fell. Tree branches heavy with ice crashed to the ground blocking roads and knocking down power lines. One Issaquah man was reported dead when a tree limb fell on him (Ellison and The Associated Press, 2012). The storm was dubbed “Snowmagedon” and Governor Gregoire declared a state of emergency on January 19th (Ellison and The Associated Press, 2012). On March 5, 2012, a Presidential Disaster Declaration went into effect and Governor Gregoire requested federal aid (Federal Emergency Management Agency [FEMA], 2012).

In addition to severe weather, western Washington is at risk for earthquakes because it is located along the Ring of Fire (Institute of Geophysics, n.d., Puget Sound Offices of Emergency, n.d. Walsh, Gerstel, Pringle, and Palmer, 2012). There are seven major tectonic plates covering the earth’s surface (Institute of Geophysics, n.d.). The Ring of Fire is an area where the earth’s tectonic plates pull away (divergent), slide along (transformation), or push under (subduction) each other (Walsh, Gerstel, Pringle, and Palmer, 2012; Institute of Geophysics, n.d.). Tectonic plate movement causes energy to build up and release of this energy results in

more frequent of volcanic and seismic activity than in other parts of the world (Walsh, Gerstel, Pringle, and Palmer, 2012; Institute of Geophysics, n.d.). Washington is in an area called the Cascadia Subduction zone where the Pacific tectonic plate is pushing the Juan de Fuca plate upward at about two inches per year (Walsh, Gerstel, Pringle, and Palmer, 2012). Sometime in the future the built up of energy between these plates will be released in an earthquake (Walsh, Gerstel, Pringle, and Palmer, 2012).

FEMA (n.d.) recommends that everyone be prepared for an emergency or disaster. Being prepared means collecting supplies for an emergency kit (FEMA, 2014a), designating a meeting place if separated from family; and designating an out of area contact to relay messages to other family members if local phone services are down (FEMA, 2013). FEMA and Emergency Management Offices throughout the Puget Sound Region of Washington recommend storing enough emergency supplies to last seven to ten days to live through a disaster as destructive as Hurricane Katrina in 2005 or the Japanese Earthquake and Tsunami in 2011 (FEMA, 2014a; Puget Sound Offices of Emergency Management, n.d).

Basic emergency preparedness supplies should include one gallon of water per person per day for seven to ten days; enough food to sustain a person seven to ten days; a flashlight with extra batteries; a first aid kit; a whistle to “signal for help”, a tool to turn off utilities, a manual can opener, a cell phone with a solar charger; and a battery powered or hand crank radio with NOAA Weather Radio tone alert (FEMA, 2014a). NOAA is the National Oceanic and Atmospheric Administration, they send out weather information, as well as natural disasters and emergencies. This is a twenty-four hour seven day a week service. A tone alert activates when there is a forecast of severe weather or other event (NOAA, 2008).

In 1979, the Surgeon General’s report, *Healthy People*, prompted development of objectives

to promote health and prevent disease (Sorenson, Kavet, and Stephenson 1987). These objectives specified what public health would focus on in the 1980's (Sorenson, Kavet, and Stephenson 1987). Since this time, Healthy People publications have come out every ten years outlining health objects to focus on in the following decade to improve health (Office of Disease Prevention and Health Promotion [ODPHP], 2014a). Now Healthy People 2020 is out and new objectives were added including emergency preparedness and older adults (U.S. Department of Health and Human Services [DHHS], 2010).

Healthy People 2020's preparedness goal is to "improve the Nation's ability to prevent, prepare for, respond to, and recover from a major health incident" and lists "social interconnectedness", "economic and social conditions", personal experience with emergencies and disasters, and media as determinants of a "community's level of preparedness" (U.S. DHHS, 2012). This project practicum is a qualitative study, guided by the preparedness goals listed above in Healthy People 2020 and by the Health Belief Model. The Health Belief Model (HBM) was modified to emergency preparedness for this project practicum (Champion and Skinner, 2008). Through the HBM, the principal investigator explored study participants' perceived vulnerability to the January 2012 winter storm and emergencies and disasters in general. This project practicum also looked at study participants' perceived benefits and barriers to preparing; perceived ability to live through an emergency or disaster without outside help; and individual-specific modifying factors, such as age, gender, and disability (Champion and Skinner, 2008).

Healthy People 2020 states that older adults are at a much higher risk of developing a chronic illness and subsequent disability than younger individuals (ODPHP, 2014b) and those with chronic health conditions are more vulnerable in an emergency or disaster (Federal Interagency Forum on Aging-Related Statistics, 2012). This vulnerability was illustrated when Hurricane

Katrina occurred in 2005, adults sixty years old and older comprised 15% of the population but accounted for 70% of the deaths associated with this hurricane (Benson, n.d.). Weak social ties within these older adults' neighborhoods slowed the ability to quickly evacuate older adult during this hurricane (Wilson et al., 2007).

Chapter 2

Goals

The goals of this project practicum were to understand the potential needs of adults sixty-five years old and older in an emergency or disaster; and to improve the effectiveness of emergency outreach education and messaging. Results from this project practicum were intended to help develop strategies to keep older adults safe during the next emergency or disaster.

Objectives

The objectives of this project practicum were:

1. To explore whether adults sixty-five years old and older were aware of the emergency preparedness messages disseminated by the City of Issaquah, Seattle-King County Public Health Department, and other helping agencies.
2. To explore what vulnerable adults sixty-five years old and older experienced during the January 2012 winter storm and what factors were involved in their stated level of preparedness during the storm.
3. To identify potential gaps in services to older adults in Issaquah that could be filled by local helping agencies to better prepare and assist vulnerable individuals when the next storm, emergency, or disaster occurs.
4. To gather insight that may be used to improve effectiveness of emergency outreach education and messaging to older adults to increase future emergency preparedness activities.

Chapter 3

Methods and Analysis

This project practicum project was a qualitative study guided by the Health Belief Model and Healthy People 2012. Criteria for participation in this study were: being sixty-fives years old or older and living in non-institutionalized setting in Issaquah. This project practicum explored how different variables influenced adults sixty-five years old and older to prepare for an emergency or disaster and looked at study participants' experiences during the January 2012 winter storm.

Below is an illustration of the Health Belief Model specific to this Project Practicum.

Figure 1

Individual beliefs regarding threat of emergency or disaster in Issaquah
“Perceived threat”→ vulnerability to an emergency or disaster
“Perceived benefits“→being prepared will make a difference in an emergency or disaster
“Perceived barriers”→government will rescue everyone in an emergency or disaster
“Perceived self-efficacy”→can rely on oneself for survival in an emergency or disaster



Individual-specific Modifying Factors
Gender
Age
Ethnicity
Physical and cognitive ability

Social interconnectedness
Economic and social conditions
Personality



Preparedness activity
Make a plan
Collect supplies and assemble an emergency kit
Know what to do in an emergency or disaster



Cues to Action
Media—understanding the emergency preparedness messages from the City of Issaquah, Seattle-King County, & other community agencies
Received preparedness messages that make sense to the individual
Personal experience with emergencies and disasters

Note: the Health Belief Model as it pertains to emergency preparedness activity (Champion and Skinner, 2008). The arrows are uni-directional.

The principal investigator planned to recruit and interview a minimum of ten study

participants and two key informants for this project practicum. Key informants were members of the Issaquah Citizen Emergency Response Team (CERT) and were content experts because they had frequent contact with the public while volunteering at emergency preparedness information booths at community events throughout the year. Study participants were recruited through flyers posted in coffee shops and grocery stores, through an invitation to a club meeting for business professionals, and by referrals from other study participants. Study participants contacted the principal investigator to schedule an interview. Interviews were semi-structured and directed by an interview guide.

The interview guide was developed by the principal investigator based on information acquired from Brenda Bramwell (Emergency Management Coordinator for the City of Issaquah and project practicum community committee member); information the principal investigator obtained through CERT training; the principal investigator's personal storm experience; media reports during the January 2012 winter storm; and suggestions made by the principal investigator's project practicum committee chair, Dr. Jenny Miller, and faculty committee member, Dr. Gabriel Garcia. The interview guide started off with questions regarding functional status, and then moved on to questions related to the HBM. Questions were open-ended and were reviewed by Dr. Miller, Dr. Garcia, and the University of Alaska Institutional Review Board.

Each study participants and key informants signed a consent form and a copy was offered before each interview. This form stated that his project practicum involved an interview and was intended to explore the lived experiences of older adults during the January 2012 winter storm with the hope that their experiences would bring insight on how to better keep vulnerable older adults safe during the next emergency or disaster. They were notified that their participation was

voluntary; their anonymity protected by not connecting the signed consent form to their interview transcripts; and all written documentation would be stored in a locked box.

Study participants were also notified that their participation had no benefit to themselves but may identify ways to keep vulnerable older adults safe when the next emergency or disaster occurred. There were no incentives to participate in this project practicum; however, the principal investigator offered to buy each study participant a coffee and snack if the interview took place in a café.

Each interview lasted approximately thirty minutes; and was taped and transcribed into a written format. There was no personal identifying information on notes made during the interviews. Any of notes that were made on the interview guide were transferred to the bottom of the interview transcript to reference to as needed. Tapes were destroyed after the interviews were transcribed. Paper transcripts and analysis were stored in a locked box at the principal investigators residence and shredded when no longer needed to for data analysis. Consent forms were also stored in the lock box and were not linked to interview transcripts. Computer transcripts were kept on a password-protected computer. Key informants were interviewed to gather their opinions regarding the overall preparedness of people in Issaquah.

A constant comparison thematic approach (Stern, 2008) was used to analyze study participants' responses. Study participants' responses to each interview question were grouped together on Excel spreadsheets to help the principal investigator compare and contrast responses, looking for themes. Demographic variables were also evaluated to see whether they influenced study participant responses.

Fourteen older adults were recruited for this project practicum. Another three individuals were interviewed as key informants for this project practicum. Key informants were known by

the principal investigator and volunteered to take part in this project practicum. Potential study participants and key informants contacted the principal investigator to schedule a time and place to conduct the interview. Twelve interviews were scheduled within the same week in which the study participants called the principal investigator. Two interviews required two to three phone calls and were scheduled out more than a month due to the study participants' schedules and the holiday season (most interviews occurred December 2013).

Chapter 4

Results

Sample Demographics

Eight women and six men were interviewed for this project practicum. Eight study participants were married—four men and four women. Six study participants were single—two men and four women. The range of time study participants reported living in Issaquah was between five and forty-one years and the average number of years was twenty-one. The range of time study participants reported living in Puget Sound was between ten and sixty-eight years and the average number of years was forty-two. Thirteen study participants did not report a disability. One study participants reported living with a spouse with cognitive impairment; and one study participant reported an inability to walk long distances.

Perceived Threat and Benefits of Preparing

Viewing emergency preparedness media or experiencing a prior emergency or disaster may or may not prompt someone to prepare for a future emergency or disaster. There was a general consensus among study participants that preparing for an emergency or disaster would make a difference. Eleven out of fourteen study participants agreed that being prepared would make a difference in surviving an emergency. However, there was a discrepancy between thought and action. Only seven of the eleven reported that they were prepared for an emergency or disaster. Two study participants stated they could not financial afford to prepare for an emergency or disaster. The two remaining study participants reported that they just did not prepare.

Staying warm was a concern during the January 2012 winter storm, thus how study participants stayed warm was a component of each interview. No study participant expected outside help to make it through this storm or any other emergency or disaster. However, outside

resources were used. Study participants who did not have a source of heat in their homes were able to escape the cold by going to warming shelters, cafes, neighbor's homes, and hotels. This ability to escape the cold probably blunted the impact of the storm and negating the cue to actively prepared for future emergencies or disasters. Based on their experiences during the January 2012 winter storm, study participants planned to make few changes to their present level of preparedness. Changes that were planned included purchasing a heat source, storing fuel, and purchasing a cell phone. Two study participants, who sounded like they were already prepared to withstand an emergency without outside assistance, were among study participants who planned to increase their supplies.

There is much conjecture in the community about whether or not a large earthquake will occur in Puget Sound. A key informant stated that the focus of the general public needs to shift from "what if" to "when will" an earthquake occur. "It's going to happen. People need to be prepared" (key informant). When study participants were asked whether they thought a major disaster on the scale of the Japanese Earthquake and Tsunami in 2011 or Hurricane Katrina in 2005 could occur in their lifetime, twelve study participants stated that they thought it was possible. Comments from study participants, who did think a disaster was possible include "we are due for a big earthquake...but due in my lifetime nobody knows...it could be tomorrow...there could be another Mt. St. Helens again...I think it is likely", and "we hope never, but hopefully we're prepared". One study participant who thought a major disaster was unlikely stated, "hurricanes do not happen here, tsunamis don't happen here".

Two study participants reported that there was no chance of a major disaster occurring in Issaquah. Perhaps these study participants did not perceive risk because past disasters have always occurred in far away places and have not impacted their lives. All three key informants

agreed that the majority of the general public was not well prepared for an emergency or disaster and did not realize how vulnerable they were. “My assumption is that most people thought about it [preparing for an emergency], but are too busy or have other priorities [and] have not done anything” (key Informant).

Previous Experience versus Media

The lessons learned from past experiences with emergencies or disasters appeared to have prompted some study participants to prepare to the point that they probably did not need outside assistance to make it through emergency or disaster. These study participants spoke at length about their experiences during the January 2012 winter storm, past storms, and events that prompted them to prepare for emergencies and disasters. These study participant interviews were longer than other study participant interviews because of everything they wanted to tell the principal investigator.

Two study participants quoted below illustrate how the difference in past storm experience and length of time living in Issaquah influenced emergency preparedness. A study participant who had lived in Issaquah thirty-nine years and reported being prepared in an emergency said as follows:

I think it was the inaugural day storm [that made me prepare]...and I was out of power for three days. I did have a wood stove in the house and I had ample wood. And I had five fireplaces in the house and I got to feed quite a few neighbors. But that taught me a very strong lesson. The power was out longer [in my home] than a friend of mine in downtown Issaquah, their power came on first...And they brought their 1200 power watt generator up to my house and hooked it up. I was on well water so I did not have water either, which made it worse. So that was the lesson at that time that each person must be

able to take care of their family sort of speak, personal responsibility. That was never going to happen to me again.

On the other hand, a study participant who reported living in Issaquah five years and who was not prepared for an emergency stated “well, we had small ones [storms] but nothing like that one...We had so many trees come down...blocking the roads” referring to the January 2012 winter storm. However, this study participant, who made no purposely action to prepared for an emergency or disaster, was not concerned about not being able to live through another emergency or disaster. If a disaster occurred right now, “I could live through it. It might not be pleasant”.

Television news and weather reports were the most frequently mentioned media related sources of emergency preparedness information. When study participants were asked how they interpreted the media messages seen, they reported that they interpreted media messages as prompts to the need to prepare for a predicted storm, emergency, or disaster. Not all these study participants were actively prepared for an emergency, but T.V. news and weather did let them know of the likelihood of a storm occurring in Puget Sound. Two study participants who gathered emergency preparedness information from other forms sources that they also interpreted the media messages to mean that they needed to help their neighbors.

The role of past experience and media as cues to prepare for an emergency or disaster were not clear. There appears to be many other variables that come into play regarding whether or not to prepare. However, it did appear that study participants with past experience with emergencies and disasters that directly impacted their well-being were more prepared for an emergency or disaster than study participants who had not experienced such an event.

Perceived Self-Efficacy and Barriers

Twelve study participants were confident in their ability to weather the storm without outside assistance. Perhaps it was some of this confidence that led them to think that it was not important to prioritize the need to prepare for an emergency or disaster. For three study participants, economics or disability appeared to influence the ability to prepare for an emergency or disaster. The two study participants who were not so confident with their ability to make it through an emergency or disaster were the study participants with a disability or a disabled spouse; these two study participants relied on friends and family to assist them through the storm. However, no study participant lived in isolation. Even those who did not specifically mention outside interaction with friends or family were married or lived in close-knit neighborhoods.

Chapter 5

Discussion

Themes

Three themes emerged from this project practicum. First, prior experience with an emergency or disaster and the impact this event had on the individual appears to influence the individual's level of preparedness. Second, it is likely that people in Issaquah are not as prepared for an emergency or disaster, even though they perceive that they are. Finally, it is important for people to be connected with one another; i.e. friends, family, and neighbors.

Perceived Vulnerability and Preparedness

Perceived vulnerability to health threats is one component to the Health Belief Model and is theorized to influence action (Champion and Skinner, 2008). The Health Belief model modified to this project practicum looked at whether past experience and media cued emergency preparedness activity and evaluated whether individual variables had any influence on preparedness. Results from this project practicum suggested that frequent exposure to emergency preparedness information and experiencing past emergencies or disasters heightened perceived vulnerability to health threats. This increased perception of vulnerability and the perception that action could be beneficial to mitigate the impact of an emergency or disaster seemed to prompt emergency preparedness in many study participants. The influence of individual modifying variables, such as personality, socioeconomic status, and disability also appeared to influence emergency preparedness.

This project practicum also suggested that study participants may assume that future emergencies or disasters would resemble previously experienced emergencies or disasters, which was seen in the two study participant quotes mentioned earlier in the results section of this

report. Study participants referenced many storm experiences in addition to their experiences during the January 2012 winter storm. However, based on previous storm experiences and experiences from the January 2012 winter storm, most study participants did not plan to make changes to future emergency preparedness supplies. This lack of preparedness could be due to the belief that another disaster is not likely to affect them (Wilson, et al., 2007). Another possibility is that study participants do not realize that other emergencies or disasters; such as floods, landslides, chemical spills, and earthquakes; could have a greater of an impact to their well being than winter storms. Li et.al. (2010) suggests that people may be overconfident regarding their vulnerability to emergencies or disasters because “high consequence” events rarely happen. One study participant stated the “best” way to be better prepared for an emergency or disaster would be to buy a generator but stated “I don’t want to spend the money on a generator”. Findings in this project practicum support Larsson’s and Enander’s (1997) observation that in general people will only implement changes to emergency preparedness if these changes cost little time, money or commitment. Ironically, the study participant who did not want to spend money on a generator ended up spending money to stay in a hotel for a few nights.

Lindell and Prater (2002) suggest focusing on the utilitarian purpose of “household hazard adjustments”, such as knowing how to turn off the electricity and water (perhaps by buying a multipurpose utility shut off tool) and buying a fire extinguisher. These “hazard adjustments” increase preparedness and generally bypass the need to address emergency preparedness because they are not perceived by people as acts of preparedness and the “perceived cost, and requirements for time, effort, and cooperation” are minimal (Lindell and Prater, 2002).

Study participants who did not think a major disaster could occur in their lifetime or waived

about the possibility still held a low perception of personal risk to earthquakes and other disasters. One study participants who had lived in Issaquah for about 50 years commented “...this [Issaquah] is probably a relatively stable area...I am not close to the ocean...although, we have a lot of fault lines, [there] has not been active earthquakes in a number of years”. A study by Lindel and Prater (2002) indicates that the frequency of an event and the frequent offering of educational material influences perceived risk. In a study comparing residents’ of Southern California and Western Washington perceived risk of an earthquake occurring. Residents of Southern California perceived earthquakes as more of a threat and were more prepared for an emergency than Western Washington residents, though both regions are at risk for earthquakes (Lindel and Prater, 2002). Earthquakes are ten times more frequent in Southern California (USGS Earthquake Hazard Program, 2014; Walsh, Gertstel, and Palmer 2012) than in Washington (Walsh, Gertstel, and Palmer 2012). However, Washington is still very much at risk for earthquakes. Since 1872, six earthquakes at a magnitude of 6.0 or higher have occurred in Washington (Walsh, Gertstel, and Palmer 2012).

Study participants who lived in Puget Sound for sixty or more years had a firmer grasp of the hazards in Washington. These study participants reported having a generator, extra wood for their fireplace, and gasoline and talked about the measures they took to be prepared for emergencies and disasters. These project practicum results support Tanaka’s (2005) assertion that those who have lived in an area for a long time tend to know more about their environment, and had experienced or knew of past local emergencies and disasters. Project practicum results also support conclusions made by Lindell and Prater (2002) and Baker (2001) stating that prior disaster experience and preparedness have a strong association with current preparedness activity.

Media's Role in Preparedness

This project practicum suggests that viewing and interpreting media may have less of an effect on emergency preparedness than prior experience with emergencies and disasters; only half of the study participants reported seeing emergency preparedness media. However, media should not be discounted as a method to spread the word regarding the need to prepare for an emergency or disaster.

Findings from Tanaka (2005) and Lindell and Prater (2002) indicate that more sources of educational material and frequent offering of this educational material lead to greater emergency preparedness. Study participants in this project practicum reported obtaining emergency preparedness information for several different sources, such as the Issaquah emergency preparedness website, presentations, and newspaper flyers. Television was the most common source of emergency preparedness information reported by study participants. However, according to Tanaka (2005) and Mileti and Darlington (1995), television is the most passive way of obtaining emergency preparedness information and is less effective than print materials in educating the public of the need to prepare for an emergency. Thus, offering of print emergency preparedness information is most likely the best way to educate the community in the City of Issaquah

Social Safety Net

Results from this project practicum support FEMA's (2014b) statement "research on personal preparedness indicates that individuals who believe they are prepared for disasters often are not as prepared as they think. In addition, some admit they do not plan to prepare at all" and "the people in closest proximity to you – and the people who will be able to help you most

immediately – are your neighbors”.

Key informants and study participants reported knocking on neighbor’s doors during the January 2012 winter storms and previous storm to check the well being of their neighbors. One study participant stated that if unable to connect with spouse, the neighbors would help out. Another study participant asserted, “we live in a neighborhood that people may not like each other but when push comes to shove, they’ll help each other out”. Those that are themselves prepared for emergencies and disasters can reach out to their friends and neighbors who may need health.

Strengths and Weaknesses

The sample for this project practicum was diverse with respect to gender and marital status. However, the principal investigator was not able to recruit vulnerable adults and the sample did not represent the diversity of people living in Issaquah. Biases included the self-selection of study participants; not everyone frequents cafes, reads posted flyers, or attends club meetings. Half of study participants were also recruited through referrals, which most likely caused a selection bias. Study participants referred to this project practicum by other study participants may hold views similar to the study participant who referred them.

Another bias to this project practicum was its lack of ethnic and racial diversity; there was only one non-Caucasian study participant. However, there was some economic diversity among study participants. Of the fourteen study participants recruited, four were from an Issaquah trailer park and two study participants lived in low-income housing. The other eight study participants did not specify where their homes were located.

Though the interviews were conducted following a guide, interviews tended to wander off

course and cover general emergency preparedness and other storms. The January 2012 winter storm ended up not being the focus of the interviews. A self-administered survey may have provided more uniformity of data to analyze and provided a better idea of how prepared the people in the City of Issaquah are. Potential study participants may have also been more comfortable with the anonymity of surveys with stamped envelopes addressed to the principal investigator.

With a two year time lapse between the January 2012 winter storm and the interviews, some study participants reported that they were not sure if the details they conveyed were from the January 2012 Winter Storm or another past storm. However, the study participant recollections of the January 2012 winter storm were similar to what was reported by the media during the storm and similar to what the principal investigator experienced personally during the storm, which somewhat validates the general content of the experiences study participants were reporting.

Most study participants had the same perceptions of vulnerability, self-efficacy, and barriers to preparing for an emergency or disaster. However, when one or more study participants voiced a view different from the majority, it is unknown as to whether these study participants were outliers or the sample size for this project practicum was too small. Previous research suggests that those with higher educational level together along with direct personal disaster experience are most prepared for an emergency or disaster (Muttarak and Pothisiri, 2013; Baker, 2011; Tekeil-Yesil, Dedeuglu et al., 2010). Unfortunately, level of education was not collected in this project practicum. Obtaining the exact age of the study participant would also have added value to the data analyzed, but this information was also not collected.

Trustworthiness of project practicum conclusions

In this project practicum, study participant responses should be interpreted with caution. Dependability and confirmability of this project practicum is questionable. The themes and associations between variables drawn from data analysis were present only in the body of the project practicum write-up. However, conclusions from this project practicum support many conclusions made by FEMA, 2014, Tanaka, 2005; Baker, 2001; and Larsson & Enander, 1997.

Chapter 6

Public Health Implications and Recommendations

Inferences made from the results in this project practicum indicate older adults, especially those with limited financial resources and disabilities, are at a much greater risk for suffering, morbidity, and mortality during winter storms or any other emergency or disaster. The January 2012 winter storm most likely had a greater impact on vulnerable older adults than on the study participants interviewed. The City of Issaquah set up a warming station during the January 2012 winter storm, but it was still a matter of travelling to the station to warm up. Vulnerable older adults who had trouble leaving their homes may not have been able to access this warming station or other places to warm up. It is unknown how those who relied on electricity to run medical equipment fared.

Continued community outreach is needed to increase the public's awareness of their vulnerability to emergencies and disasters, how to prepare for such an event, and find out who lives around them that may need assistance in an emergency. In 2011, Washington State Emergency Management Division received an award from FEMA under the category of Innovative Training and Education Programs category and a Challenge.gov award for its Map Your Neighborhood (MYN) program (FEMA, 2014c). MYN is currently active in 34 states and two countries (FEMA, 2014c).

The City of Issaquah implemented this program in 2007 (Issaquah Citizen Corps, 2013-2014). Map Your Neighborhood involves someone hosting a "party" for 15 to 25 families in his or her neighborhood. A trainer comes out to provide a presentation, and neighbors have the opportunity to get to know each other, exchange contact information, and find out what

emergency supplies exist in the neighborhood, where emergency resources are, who may need help, and who could provide help in an emergency. According to the MYN invitation within the party guide “knowing what to do in the first 60 minutes following the disaster...can help save lives, reduce the severity of injuries and minimize the amount of damage that you, your family and neighbors sustain” (City of Issaquah, n.d.). MYN has reached “about 12% of households” within Issaquah. It is unknown how many neighborhoods in Issaquah have taken part in the MYN program.

One study participant voiced concern regarding older adults scattered throughout unincorporated areas surrounding the City of Issaquah. Using the City of Issaquah’s Map Your Neighborhood Program may be a good tool for increasing social connections. A family member or friend could also assist an older adult host a MYN party so neighbors are aware of where he or she lives. Knowing where older adults live is key to providing the assistance that they may need during an emergency or disaster.

Collaborating with local churches may also be a way to “mobilize community partnerships to identify and solve health problems” (CDC, 2014). Churches may be able to assist in identifying where older adults live, find out what assistance they may need in, and help them make connections with people living around them. Emergency preparedness information and MYN could also be distributed through local churches and King County Metro ACCESS buses (transit option for individuals unable to take the regular bus) that service the Issaquah area.

Citizen Emergency Response Team training is another aspect of the essential public health services “mobilize community partnerships to identify and solve health problems” and to “inform, educate, and empower people about health issues” (CDC, 2014). CERT training teaches people within the community skills to help themselves and others in the event of an

emergency or disaster. CERT members can collaborate with the City of Issaquah in its emergency response efforts when an emergency or disaster occurs.

In 2013, Washington State won FEMA's Individual and Community Preparedness award with its "What to Do to Make it Through" media campaign (FEMA, 2014c); and in 2014, Washington State's Community Preparedness "Take Winter by Storm" campaign earned an honorable mention (FEMA, 2014c). Both of these campaigns encourage people to be prepared for any emergency or disaster by collecting supplies and making a family emergency plan to "make it through" an emergency or disaster. "Take Winter by Storm" specifically focuses on winter weather; i.e. snow, ice, wind, floods and loss of power; and provides a emergency preparedness supply checklist detailing what supplies are recommended to be in ones emergency kit and steps to winterize ones home. "Take Winter by Storm," recommended three days of emergency supplies. These guidelines changed with "What to Do to Make it Through", which recommends increasing emergency preparedness supplies from three days to 7-10 days to survive an event as catastrophic as Hurricane Katrina in 2005 or the Japanese Tsunami/Nuclear Reactor Meltdown in 2011 (Puget Sound Offices of Emergency Management, n.d.).

The City of Issaquah and outside agencies will not be able to help everyone in an emergency or disaster. The most effective way to help older adults in an emergency or disaster may be a grass roots effort, neighbors helping neighbors. If people who are prepared for an emergency or disaster surround older adults, their needs most likely will be met. With continued emergency preparedness education, to "inform, educate, and empower the public", more people would be exposed to emergency preparedness information and hopefully it eventually sink in.

Recommendations

The principal investigator encourages the City of Issaquah to continue promoting emergency

preparedness by embracing the “Take Winter by Storm” and “What to Do to Make it Through” campaigns; and continuing its Map Your Neighborhood program and biannual Citizen Emergency Response Team (CERT) training; and continue handing out written emergency preparedness information at its CERT community outreach booths. The principal investigator recommends collaborating with local churches, the King county Access buses to identify and other groups that may have contact with vulnerable older adults to distribute emergency preparedness information.

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Appendix A**Consent****RESEARCHER:**

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(907) 786-6588

STUDY:

This study explores the experiences older adults had during the January 2012 winter storm.

Participation in this study is voluntary and involves one taped interview lasting about 30 minutes.

VOLUNTARY PARTICIPATION:

Participation in this study is completely voluntary. Study participants may stop the interview at any time without consequence.

PRIVACY:

Study results will be presented as a group to prevent identification of individual study participants. Consent form will not be connected to interviews. The interview recordings will be written out word-for-word and stored on a password-protected computer. Paper copies of interviews and the tapes will be secured in a locked box during the study. All data will be destroyed once the study is completed.

BENEFITS:

There are no direct benefits to you for participating in this study.

RISKS:

There are no known risks.

QUESTIONS?

If you have questions, please contact Marisa Johnson at 425-306-8380. If you have any further questions about this study, please contact Dianne Toebe, study compliance officer at University of Alaska Anchorage, at 907-786-1099.

SIGNATURE:

Your signature on this form indicates you understand the information listed above and you agree to be interviewed on tape. If you have any questions, please ask them now or at any time during the interview.

Signature _____

Date _____

Printed Name _____

A copy of this form is available for you to keep

Appendix B

Interview Guide for an “In-Depth Interview” using a “semi-structured” format

Proposed Interview format and questions

Introduction

“I am a graduate student from University of Alaska Anchorage. I am exploring the lived experiences and impact of the January 2012 snowstorm on adults 65 years old or older as my final project to earn a Master’s degree in Public Health. Information will be collected through interviews using a short list of open-ended questions to guide the interview process.

May I interview you? This interview will be recorded so I can transcribe it into a written format, which will be used to look for similarities and differences in the experiences of those I interview for this project. Your name will not be attached to the interview to maintain your confidentiality.

I also plan to present a summary of my findings to the City of Issaquah Emergency Management Office and other helping community agencies. I hope that the insights and perspectives gained through these interviews will help guide improvement of services to older adults in future emergencies or disasters”.

Interview Questions

1. Please tell me a little about yourself

- a) How long have you lived in Issaquah and other communities in the Puget Sound area of Washington?
- b) Who do you live with?
- c) Please describe your routine for bathing, dressing, and toileting. What kind of assistance do you need to perform these tasks?
- d) Please describe your routine for cooking, cleaning, and grocery shopping. What kind of assistance do you need to perform these tasks?
- e) How do you get around town?

2. Key questions

- a) What do you consider to be an emergency or disaster?
- b) What preparations, if any, did you make to withstand an emergency or disaster?
 - What kinds food, medication, or equipment did you set aside for use in the event of an emergency or disaster? How did these supplies affect your experience during the January 2012 storm?
 - What plans did you make to reunite with family (or those living with you) if separated in the event of an emergency or disaster? (Prompt interviewee to indicate whether or not plans were

made for a neighborhood meeting spot and out of area phone contact).

- c) If no preparations were made, what were the barriers or reasons for not preparing for an emergency or disaster?
- d) Have you seen or heard any media campaigns encouraging you to prepare for an emergency or disaster? If yes, what media campaigns did you see? How would you describe the message(s) you received? How did these media messages influence whether or not you were going to prepare for an emergency or disaster?
- f) How did the January 2012 winter storm affect your usual daily activities?_(Prompt interviewee to address whether he/she lost electricity to home and difficulties with transportation impeding buying food or attending medical appointments).
- g) When it started to snow in January 2012, how confident were you regarding your ability to endure the storm without needing outside help?
- h) Based on your experiences during the January 2012 winter storm, what have you changed to prepare for this upcoming winter season (2013-2014), or any other unexpected event?
- i) If an emergency or disaster occurred right now, how prepared are you to make it through this disaster? How do you think this emergency or disaster would affect you? How scared would you be?
- j) How likely do you think you will experience a major emergency or disaster on the scale of the Japanese Earthquake/Tsunami/Nuclear Reactor Meltdown or Hurricane Katrina in your lifetime?

3. Wrap-up.

Is there anything else you would like to share with me before we end this interview?