

Emergency preparedness and personal evacuation planning: Involvement of Occupational  
Therapists

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### *Abstract*

Disaster and emergency events are common occurrences and the skills necessary to respond to these incidents appear to fall within the scope of practice of occupational therapy (OT). This survey explored the format, methods and content, and frequency with which U.S. home health occupational therapists address two topics: emergency preparedness and personal evacuation planning with clients and caregivers, as well as their views of its place within the scope of OT practice. From 250 mailed recipients, 88 usable questionnaires were received for an adjusted response rate of 38.3%. Of the respondents, 85.2% were found to address either or both of these two topics with their clients, though the majority only did so with up to a quarter of their clients. The majority of respondents, 53.4%, addressed emergency preparedness by discussing medical alert programs and 79.5% addressed personal evacuation planning through the reduction of home hazards. Statistically significant relationships were found between the presence of other medical professionals for collaboration and both the percentage of clients who receive interventions addressing emergency preparedness ( $\chi^2(4, N = 80) = 35.517, p < .001$ ) and personal evacuation planning ( $\chi^2(4, N = 80) = 26.867, p < .001$ ). Common reasons for not addressing emergency preparedness were that it was not considered a priority or that there were policy limitations on their practice. Still respondents considered emergency preparedness to fall within the scope of OT. As OT literature has focused upon disaster recovery, these responses indicate a need for increased research regarding OT and pre-disaster roles.

The effects of emergencies and disasters can be far reaching and severe, especially for those who are elderly or have a disability. Lives may be lost during such incidents or immediately after an event has occurred. Its survivors may become temporarily or permanently disabled, both physically and emotionally. Depending on the magnitude of an event, the consequences could be limited to a single household, such as the results of a house fire, or stretch to encompass a community or even a society, as seen with earthquakes. While it is possible to lessen the impact of a disaster or emergency, that often depends on the earlier creation and implementation of plans that address the time prior to an event (should there be warning), the time during which an emergency or disaster actually takes place, and the period of recovery and reconstruction that occurs afterwards. This study will focus on an aspect of planning that addresses the first two stages of this progression, specifically the creation of emergency response and personal emergency evacuation plans for the elderly and people who have a disability.

The chances of successful evacuation can be increased through the preparation and implementation of emergency evacuation plans. This is of even greater importance for people with disabilities or who are elderly and may be a deciding factor in their survival of an incident (Loy, Hirsh, & Batsiste, 2007). For example, it is estimated that 71 percent of those who lost their lives during Hurricane Katrina were over 60 years of age (Calahan & Renne, 2007). While there is public information available that is intended to assist the elderly and persons with disabilities in the creation of their own emergency evacuation plans, there are a number of professions and organizations that can also contribute to this cause, including occupational therapy (OT).

The American Occupational Therapy Association (AOTA) has asserted that occupational therapists can contribute to emergency preparedness by aiding in disaster planning on both institutional and individual levels (AOTA, 2008). This stance is supported by the Occupational Therapy Practice Framework (2<sup>nd</sup> edition), where safety and emergency maintenance are considered as instrumental activities of daily living and include the ability to recognize sudden or unexpected hazardous events as well as taking action to lessen the threat they present (AOTA, 2008). The creation and implementation of emergency response and evacuation plans is one way to address these concerns. A review of articles published by the *American Journal of Occupational Therapy* (AJOT), however, did not uncover research on the creation or use of personal emergency evacuation plans or other forms of emergency preparedness for clients. Instead, articles related to this topic were focused upon post-disaster recovery and/or community level action.

### **Background**

Within “The Reference Manual of the Official Documents of the American Occupational Therapy Association” Scaffa, Geradi, Herzberg, and McColl (AOTA, 2008) proposed certain premises regarding the nature of disasters and how they relate to occupational therapy. The first of these propositions was that disasters are common occurrences throughout the world. Evidence for this assertion is contained in surveys conducted by a variety of governmental departments and organizations. For example, according to the U.S. Geological Survey, 31,777 earthquakes occurred worldwide in 2008, of which 180 registered at a magnitude of 6.0 or greater (2009). In 2007, 196 earthquakes of such magnitude were recorded and 153 occurred in 2006. Similarly, surveys conducted

by the U.S. Fire Administration (USFA) (2009) revealed that in 2008 there were 403,000 residential fires nationwide and 414,000 in 2007.

**Disaster and emergency statistics specific to elderly and disabled populations.**

Even as disaster and emergency situations are common occurrences, it is important to recognize that the elderly and people with disabilities are faced with increased risks during emergency and disaster situations. In fact, some studies have come to conclude that such status is itself a risk factor for death in events such as earthquakes (Osaki & Minowa, 2001).

A descriptive study of a 1995 earthquake in Japan explored factors related to the 1,104 deaths that occurred within the first week following the incident. Using these fatalities as a case group and forming a control group through random selection of the survivors, this study explored five variables, of which three focused upon aging populations and physical disability. Through statistical analysis, increased age was found to be a risk factor and physical handicap or disability was proposed as another (Osaki & Minowa, 2001). While it might be argued that these results are specific to the region in which the earthquake took place, similar results regarding disability as a risk factor for mortality during earthquakes have been found in other studies. In a population-based cohort study following a 7.3 magnitude earthquake in Taiwan on September 21, 1999, researchers examined the relationship between social economic status (SES) and health status, including the presence of a disability and the rate of death during an earthquake. This was performed through statistical analyses of information obtained on the victims and survivors of said incident. The results of this study led researchers to the conclusion that both lower

SES and the presence of moderate disabilities increased the risk of death during earthquakes (Chou et al., 2004).

In its “Topical Fire Research Series,” the USFA (2001) asserted that, based upon data from the National Fire Incidence Reporting System (NFIRS), fires were the sixth leading cause of death among the elderly in the nation. Later, the USFA (2006) reviewed information derived from the Census Bureau, the NFIRS, and the National Center for Health Statistics. This report found that while the national fire fatality rate was 14 deaths per 1,000,000 people, the rate of fire fatality among adults 65 years and older was 35.4 deaths per 1,000,000. In the case of both studies, it should be noted that the NFIRS is an ongoing survey and that while its data do provide information on the prevalence of fires and fire fatality rates across the nation, it is incomplete as the system is voluntary and not all fire departments participate in its data collection.

Other sources of research have arisen in response to Hurricane Katrina; in 2001 one such survey was conducted among Red Cross shelters in Houston, TX during the evacuation. This survey found that of its respondents only 51% were younger than 65 years of age. Of the 680 respondents, 61% reported that they did not evacuate prior to the impact of the hurricane. Of that number, a further 12% stated their reason for not evacuating prior to the hurricane was either being physically unable to or having to provide care for someone else who was physically unable to leave (Brodie, Weltzein, Altman, Blendon, & Benson, 2006).

**Prevalence of emergency evacuation planning.** The assertion that emergency evacuation planning is an important component of disaster survival can be found in many

of the numerous educational guides on emergency response available to the public (American Red Cross, Federal Emergency Management Agency, 2004; Krumpel & White, 2007; National Organization on Disability, 2007; Western University of Health Sciences, 2004). Research supports the value of emergency evacuation plans. Through an internet survey conducted on the Nobody Left Behind project's website, 56 people with mobility impairments who had experienced a disaster shared their thoughts on positive influences on their survival and what areas they experienced difficulties with. From this data, a constant comparison analysis strategy revealed three themes among the positive factors for survival. The first was preplanning experiences, which included the planning of evacuation and assessment of environmental factors such as accessibility and exits. However, six respondents cited the lack of evacuation plans as one of their negative experiences during the incident they experienced (Rooney & White, 2007).

The lack of evacuation planning may not be uncommon despite the importance ascribed to the creation of such plans. In a 2005 telephone poll of a random sample of 1,001 adults nationwide it was found that 53% of respondents with disabilities did not have plans in place for evacuating their home during a crisis (National Organization on Disability, 2005). It is interesting to note that even among those respondents without disabilities, 48% also did not have evacuation plans in place.

**Training clients with disabilities for emergency evacuation.** There are a number of methods of addressing personal evacuation planning with clients who have a disability and/or are elderly. One common option is the use of educational guides made public by organizations such as the American Red Cross (2004) and the National Organization on

Disability. As another route, clinicians actively providing education can be an effective method for preparing their clients for emergency evacuations as evidenced by a literature review of earthquake preparedness methods (Ross, ND).

There is also literature which suggests that people with disabilities may be prepared through participation in emergency evacuations drills set up by clinicians and caregivers. In one study, researchers used the modeling of behavior, cuing, verbal rewards, and practice to teach three adults who had been diagnosed with mental retardation and had difficulty walking to evacuate their home during fire drills. These drills progressed so that eventually clients were starting in different locations with each drill. These interventions led to all three clients reducing the time it took them to evacuate from five to six minutes to less than two. For two of these subjects, the results of their training were retained for over 12 months (Bannerman, Sheldon, & Sherman, 1991).

Another study from that period examined at the use of similar methods to prepare 52 clients who had been diagnosed having autism or mental retardation for evacuation of the dormitory they resided in. As with the previous study, modeling, cuing, praise, and practice was used to prepare clients who participated in fire drills during the day and eventually at night. This study also varied the frequency at which such drills occurred, reaching, at one point, nightly. This plan led to all subjects demonstrating the ability to evacuate independently (Israel, Connolly, von Heyn, Rock, & Smith, 1993).

**AOTA's position regarding emergency preparedness.** As mentioned previously, the ability to respond to an emergency is considered an IADL. Thus, it seems appropriate that emergency evacuation planning falls within the scope of practice of OT. In spite of

this, a number of AOTA documents discussing the role of OT in emergency response do not address the topic. Instead the literature focuses upon disaster and evacuation planning on a community and institutional level and on OT's role in the recovery process after an incident (Schoessow, 2009; Stone, 2006). Even in *the Reference Manual of the Official Documents of the American Occupational Therapy Association* (2006) there is only brief mention of the creation of emergency evacuations plans on a household or individual level. While participation on the community level and in the recovery process after a disaster is important, this does not shed any light on how, within OT practice, to assist vulnerable populations, such as the elderly or people with disabilities, prepare to evacuate their place of residence during a crisis.

As a step toward understanding the relation between OT and personal evacuation planning, it is the intent of this study to explore the format, methods and content, and frequency with which U.S. occupational therapists address emergency preparedness and personal evacuation planning with clients and caregivers, as well as their views of its place within the scope of OT practice.

## **Method**

### **Survey Design**

This descriptive study was completed through a written survey intended to identify the types of emergencies and disasters are addressed by therapists, the manner in which occupational therapists address emergency preparedness and personal evacuation planning for the elderly and people with disabilities, the frequency by which these areas are addressed, and therapist impressions on OT's role in assisting clients in emergency

preparedness and personal evacuation planning.

A survey was chosen due to time constraints and the need to reach a larger portion of the target population than would be possible through interviews or observations. The survey will be distributed by mail for two primary reasons. The first is that not all geographical areas may be at risk by the same forms of emergencies and disasters. By mailing the survey it will be easier to reach therapists across a range of geographical areas within the United States to account for this variation. Second, due to the number of occupational therapists who will be included in this study's sample, a survey by mail was considered to be more efficient than a telephone survey.

### **Participants**

In terms of occupation, the ability to respond to an emergency situation is considered to be an IADL. As such, this topic could be addressed by any occupational therapist working with clients who live in a residential setting or are being discharged to one. However, it would be unrealistic to expect the ability to evacuate or other emergency response activities to be addressed in every practice setting. For instance, it would seem inappropriate to expect a therapist to work with a burn victim on evacuation planning while that patient is still in the acute stage of care. Similarly, while some physical disabilities may provide a barrier to emergency evacuation, it would not be expected that a specialized outpatient facility, such as a lymphedema clinic, would have a need to address individual client evacuation skills. For the purpose of this study it was decided to focus upon occupational therapists working with Home Health Services. By the nature of this therapy setting clinicians are in a position that, by their presence in the client's home, allows them

to assess the client's environment and assist in the creation of personal evacuation planning.

Within the scope of the current study, it would be impractical to try to conduct a survey of all therapists working currently in a home health setting. Thus, a systematic random sample of occupational therapists who are AOTA members and who have selected the Home and Community Health Special Interest Section (HCHSIS) for their primary special interest section was created. This list contained 250 participants from the target population which, at the time this study was conducted, consisted of 1216 occupational therapists as members. Respondents to the survey were excluded if they did not currently practice or had not ever practiced in a home health setting.

### **Instrument Design**

No existing instrument was known that would fulfill the purpose of this study. Thus a new questionnaire was composed. The questionnaire was submitted to an occupational therapy research committee for approval. In addition, three occupational therapists practicing in a home health setting piloted the study and their feedback was incorporated into the questionnaire.

The questionnaire was arranged into the following sections: (1) participant demographics, (2) the content and format of treatment, (3) the frequency with which emergency preparedness and personal evacuation planning was addressed, and (4) the participant's views of occupational therapy's scope of practice in emergency response. The first section, participant demographics, asked for the length of a participants' practice in occupational therapy and in home health settings. This section inquired as to the

participant's average caseload (per week), the average total sessions a client received, and the geographical region in which they practiced.

The second section, content and format of treatment, posed questions regarding what types of emergency situations had been addressed by the participant in their current (or most recent) home health setting. Questions then focused on the manner in which they addressed emergency preparedness and personal evacuation planning and the content of their interventions. The following section contained questions regarding the frequency (estimated percent of caseload) with which both emergency preparedness and personal evacuation planning were addressed in practice. It also included questions regarding at what stage of treatment these topics were addressed, and what common reasons were for them not to be addressed. Finally, this section also included a question about what other medical professionals in the participants' place of practice were involved in addressing emergency response with clients.

The final section, views of occupational therapy's role in emergency response, posed two open-ended questions: how occupational therapy relates to emergency preparedness as a whole and the other specifically in regards to personal evacuation planning.

### **Procedure**

Before its initiation, the study was approved by the University of Puget Sound's Institutional Review Board (IRB). The following procedure based on Salant and Dillman (1994) was employed. The questionnaires were mailed to all participants using the sample information provided by AOTA. Provided with the questionnaire were a cover letter

providing an introduction to the survey and a postage paid return envelope. In the cover letter participants were notified that the return of the questionnaire was considered evidence of their consent to participate in the study. Twenty-one days following the first mailing, a second mailing, including a new copy of the questionnaire, cover letter, and another postage paid return envelope, was sent to non-respondents.

The surveys received before the second mailings were separated from their envelopes and had their corresponding reminder mailing labels destroyed. These surveys were kept separate from those received after the start of the second mailing. This allowed researchers the opportunity to compare response patterns of the early and late respondents and provide some insight regarding further non-respondents. As similar response patterns were found between the mailings, they were pooled for all further analyses.

### **Data Analysis**

Data provided by the questionnaires were divided into two types for analysis. The first consisted of the data acquired through the closed-ended questions of the survey, which were entered into the computer program SPSS for analysis. SPSS descriptive statistics were performed in order to explore the frequencies, central tendencies, and variability in the data. The inferential analysis, the  $X^2$  test of independence, was also selected to explore possible associations between the frequency by which emergency preparedness and personal evacuation planning was addressed and demographic information. The same inferential test was also used to explore the possibility of an association between the frequency by which these topics were addressed and the presence of other medical professionals for collaboration. For all inferential statistics performed, a confidence level of

95% was selected, meaning that there is a 5% chance of any associations found by these statistics being a result of chance.

The second type of data consisted of the answers to the open-ended questions from the third and fourth sections of the questionnaire. Answers to these questions were analyzed for the presence of trends.

## **Results**

### **Response rates and sampling error**

Of the 250 surveys sent out in the first mailing, 85 were returned by the time of the second wave. Of the 165 mailed in the second wave, an additional 23 were returned, resulting in a gross response of 108 surveys. Twenty of the returned surveys were excluded from the study, one because it was returned blank, and the others due to the respondent marking that they had never worked in a home health setting. This resulted in a net response of 88 and an adjusted response rate of 38.3%. At the time of this study there were 1216 occupational therapists who were members of AOTA and who had selected the HCHSIS as their primary special interest section. According to Salant and Dillman (1994), the 88 net responses received were enough to ensure a sampling error of no greater than  $\pm 10\%$  at the selected confidence level.

### **Responder demographics**

The majority of respondents, 63.6%, have been in occupational therapy practice for more than 20 years (see Table 1). The most common length of time spent working in home health was not so high, as 33% of respondents marked “less than 5 years” of home health experience, more than any other time interval (see Table 1). The average caseload among

the respondents was 11.7 clients per week ( $SD = 6.46$ ). The average total number of treatment sessions clients received was 6.6 ( $SD = 4.46$ ). For this question it should be noted that only 60 of the 88 respondents provided usable responses. Those not included listed how many treatments per week a client would receive and not the total number of sessions they participated in.

**Geographical regions.** Of the surveyed occupational therapists, the largest percentage, 21.6%, indicated that they practiced in the Pacific Division of the United States. This region, as defined by the U.S. Census Bureau includes the states of Alaska, California, Hawaii, Oregon, and Washington. The least frequently represented division was the East South Central Division, which consisted of only 1.1% of the usable surveys received. A full break down of the nine divisions can be found on Table 2. Interestingly, when the divisions were combined into the four overall geographical regions of the United States, again as defined by the U.S. Census Bureau, all four regions were almost evenly represented (see Table 2) (U.S. Census Bureau, ND).

### **Treatment methods and content**

The majority of respondents, 70.5%, selected residential fires as one of the types of emergency and disaster events they address or have addressed in their home health setting (see Table 3). Of the possible emergency events listed on the questionnaire, this was one of the only options that had no geographical limitations. Of the 12 respondents (13.6%) who selected “other,” snow/winter storms and power outages were the most frequently reported emergency events.

The three most frequently selected methods by which emergency preparedness and personal evacuation planning might be addressed were “discussion and planning with the client” (71.3%), “home assessments” (66.7%), and “discussion and planning with the client’s caregivers” (66.7%) (see Table 4).

**Content of emergency preparedness and personal evacuation planning interventions.** The most commonly selected aspect of *emergency preparedness* included during treatment was addressing the client’s participation in a medical alert program, chosen by 39 respondents (53.4%) (see Table 5).

The reduction of home hazards was the most commonly selected aspect of *personal evacuation planning* addressed by therapists, as it was selected by 70 respondents (79.5%), followed by planning in regards to unsafe access features, which was chosen by 54 respondents (61.4%) (see Table 6).

### **Frequency with which emergency response is addressed**

Of the respondents, 81 (92%) indicated with what percentage of their clients they address emergency preparedness and/or personal evacuation planning. For these topics, 69 respondents (85.2%) marked that they address either or both, while 14.8% did not address either. It was also found that 3 respondents (3.7%) were found to address emergency preparedness but not address personal evacuation planning. A plurality of respondents addressed both emergency preparedness and personal evacuation planning (29.6% and 33.3%, respectively) with up to a quarter of their clients (see Table 7).

For both emergency preparedness and personal evacuation planning, respondents most commonly marked that these topics are addressed throughout treatment (53.2% and

54.1% respectively). The second most commonly selected treatment phase for both topics was during a client's initial evaluation (about 37% for both). "During their final discharge evaluation" was the least selected treatment phase, with 9.6% of respondents addressing emergency response as whole during that time and 8.2% addressing personal evacuation planning.

Of the 87 respondents who indicated if there were other medical professionals with whom they collaborated to address emergency preparedness and/or personal evacuation planning, 75 (86.2%) marked at least one other professional and the remainder indicated that they do not collaborate with any other professions. The two medical professionals selected the most frequently were physical therapists and registered nurses, both of whom were selected by 63.2% of respondents (see Table 8).

Both the percentage of clients with whom emergency preparedness and the percentage with whom personal evacuation planning has been addressed were examined to determine if they had any statistically significant relationships with the demographic data supplied on the survey as well as the presence of other medical professionals to collaborate with. Of the  $\chi^2$  tests of independence performed, three instances of statistical significance were found. The first instance was between the percentage of clients receiving treatment addressing personal evacuation planning and the average total number of treatment sessions they received ( $\chi^2(12, N = 55) = 23.509, p = .024$ ). In this relationship, an increase in the number of sessions clients received was associated with a higher percentage of clients receiving interventions addressing personal evacuation planning.

The second and third significant statistical relationships found were between the presence of other medical professionals for collaboration and both the percentage of clients with whom emergency preparedness and personal evacuation planning is addressed (emergency preparedness  $\chi^2(4, N = 80) = 35.517, p < .001$ ) (personal evacuation planning  $\chi^2(4, N = 80) = 26.867, p < .001$ ). For both analyses, the residuals found indicated that the presence of other medical professionals for collaboration was associated with higher percentages of clients receiving interventions that address emergency preparedness and personal evacuation planning.

**Reasons why emergency response is not addressed by therapists.** Participants were given the opportunity to indicate the reasons they commonly do not address emergency preparedness and personal evacuation planning. Many of the respondents placed the same answer for both questions; therefore the two were combined for analysis.

The most common reason why emergency preparedness was not addressed was that it was not thought of or considered to be a concern of the therapist or the client. Reasons given relating to this often included the phrase “never thought of it” and “the client didn’t want to.” Tied to this was the idea that, if a client’s home was accessible or the client could ambulate, then emergency preparedness did not need to be addressed.

Another reason that was expressed was that emergency preparedness was not considered a priority within treatment. As one respondent stated, there is a “focus on the now not what ifs.” Time constraints also played a role in leading therapists to ignore emergency preparedness in favor of functional issues “directly related to the medical condition.” Some respondents also mentioned that often emergency preparedness was not

addressed as it was not a reimbursable goal, and that emergency preparedness was not covered on their evaluation forms.

Another frequently mentioned response that related to this reason was that nursing either had addressed, or was assumed to have addressed this area of concern. It was also mentioned that sometimes emergency preparedness was not considered a priority when clients suffered from cognitive impairments

### **OT's role in emergency preparedness**

Many respondents copied their thoughts regarding occupational therapy's role in relation to emergency preparedness and placed it as their answer for describing OT's role in personal evacuation planning. Due to this, the responses for these two questions were pooled, and from them, common trends were identified regarding OT's role in emergency preparedness as a whole.

One prominent concept was that emergency preparedness fell within the realms of ADL and IADL. Through addressing emergency preparedness, therapists would be able to address a client's independence, safety, and mobility. Many respondents expanded upon this and discussed addressing emergency preparedness within home assessments. A few respondents went on to elaborate that emergency preparedness was not only related to a client's IADL but, by addressing it, therapists could in fact work to improve other deficits. As one respondent wrote, it "works on cognition, problem solving, etc..."

The role as an educator was another trend within the responses. Many respondents expanded upon specific areas and components of emergency preparedness that should be addressed by therapists while educating clients and their caregivers, such as safety

precautions and the creation of emergency contact lists. Others commented on how important it is to help “patients understand emergency and disaster response training even though most do not feel it is necessary.”

In the final common concept, respondents focused upon the work occupational therapists can do collaborating with others, both as part of a treatment team and when addressing institutional and community level planning. “Team member” was a commonly used phrase among responses. Other respondents discussed the idea of therapists staffing shelters following a disaster, as well as assisting with “triage.”

While not solicited by the questionnaire, many respondents also expressed their enthusiasm for this topic, or commented upon its importance. Other respondents discussed their increased awareness of the subject following completion of the questionnaire.

Four respondents, however, did not view OT’s involvement in emergency preparedness so favorably. The idea that addressing emergency preparedness was stretching occupational therapists too far was common among these four respondents. It was interesting to note, however, that two of these respondents viewed emergency preparedness as falling within the scope of OT practice, but not being practical to address due to factors such as time and reimbursement. The other two viewed it as not being as important as “the primary medical issues related to functioning in the home.”

## **Discussion**

### **Treatment method and content**

The two most frequent methods by which emergency preparedness and personal evacuation planning were addressed with clients were to discuss planning with the client

and the client's caregivers. This was reflected in the responses given regarding occupational therapy's role in emergency preparedness, as educating clients and caregivers was found to be a common explanation of occupational therapy's role in relation to emergency preparedness.

The use of home assessments was the third most frequently selected method in which emergency preparedness and personal evacuation planning were addressed. This result seems consistent with data from the question of what aspects of personal evacuation planning were addressed by therapists. For this question, the two most commonly selected responses were that therapists addressed the reduction of home hazards and that they addressed plans for unsafe access features, both of which are commonly addressed during home assessments.

### **Frequency with which emergency response is addressed**

Statistically significant relationships were found between the presence of other medical professionals with whom occupational therapists can collaborate and the frequency with which emergency preparedness as well as with which personal evacuation planning is addressed. One hypothesis explaining this is that, through working with other medical professionals, addressing emergency preparedness does not take as much time from occupational therapists as it might otherwise. Another possibility is that those therapists who are able to collaborate with other medical professionals in regards to emergency preparedness work for a provider that has policies in place regarding it. In addition, these results were reflected in the views respondents had of OT's role in emergency preparedness, as many expressed that occupational therapists should work with other

medical professionals to address both emergency preparedness and emergency response.

However for emergency preparedness, the relationship between occupational therapists and other medical professionals may not simply be one of collaboration.

Amongst the explanations of why emergency preparedness is not addressed the assumption that nursing would handle it was a common response. Yet, registered nurses were one of the two most frequently cited professionals with whom such collaboration occurs. Further research may be needed to better understand the relationship between the collaboration of occupational therapists with other medical professionals and the frequency with which emergency preparedness and personal evacuation are addressed.

### **Implications for OT and its role in emergency preparedness**

The explanations found through the open-ended questions regarding OT's role in relation to emergency preparedness appeared to follow two trends. The idea of therapists acting as educators and that emergency preparedness fell within the domains of ADL and IADL both seemed to imply a focus upon interventions aimed at specific clients and/or their caregivers. The third explanation, however, took a completely different approach with its idea of collaboration on both the client level and on an institutional or community level. While not exactly the same, this was similar to AOTA's published works regarding the possible uses for OT in community and institutional planning and recovery (Schoessow, 2009; Stone, 2006). Still it was interesting to see how only one of the explanations touched upon the trend of community-focused preparedness, while the others were concerned with treatment on a personal level. This difference in emphasis, in light of available literature, may give support to the need for more research on this topic.

With the lack of literature addressing OT's role in emergency preparedness and personal evacuation planning it was initially expected that a large percentage of respondents had not addressed these concerns with their clients. This however has not been reflected as the vast majority of responding therapists reported having done so with their clients. In addition, the views that respondents held regarding OT's role in emergency preparedness were more favorable than originally expected. Despite these findings there is, however, a concern that OT is not addressing these topics consistently. For instance, while 85.2% of respondents did mark that they address either or both emergency preparedness and personal evacuation planning, a large number of them only did so with 25%, or fewer, of their clients. In addition, one of the most common reasons that these areas of concern were not addressed was that they were not thought of. Another barrier was that even when therapists did think of them, they were not reimbursable goals. To solve this, awareness of OT's role in emergency preparedness must be increased. Some suggested methods to achieve this could include increased research on this subject and continuing education options that address these topics.

### **Limitations**

As was mentioned, a statistically significant relationship was found between the frequency by which personal evacuation planning is addressed and the average total number of treatment sessions client's received. However, there were a large number of unusable responses to the question regarding the average number of treatment sessions received by clients. In these responses information was provided on how many treatments per week a client would receive; most commonly 1 or 2. However, the mode total number

treatment sessions a client might receive was 2. With the large amount of confusion found in answering this question it is unclear if those who listed 2, or even 1, sessions were referring to the total number of sessions or were actually reporting the number per week.

Another limitation of this study was the drawing of all sample members from the HCHSIS. The reliance of creating a sample from just the HCHSIS limits the study as there may be distinct differences between the practice of those therapists in a home health setting who are and are not AOTA and HCHSIS members.

### **Future research**

While this study provided a look at how occupational therapy relates to emergency preparedness, the open-ended questions employed were intended to be exploratory. Now, with some initial views identified, it may be beneficial for a follow up study, most likely qualitative in nature, to examine therapist positions in greater detail.

Another area of research related to emergency preparedness that could be undertaken would be to try to identify effective practices. With the current movement within AOTA towards evidence-based practice, research on what interventions related to emergency preparedness can most effectively be employed by occupational therapists could be invaluable. Through this, therapists may become better equipped to provide services related to emergency preparedness for their clients. Finally, potential research might also look specifically at (1) the role of occupational therapists in community and institutional level planning, (2) the use of emergency preparedness and personal evacuation planning activities as a means to address other deficits, and (3) the nature of collaboration between occupational therapists and other medical professions when addressing emergency

preparedness.

## **Conclusion**

From the outset of this study, there was the intention of exploring the format, methods and content, and frequency with which U.S. occupational therapists address emergency response and personal evacuation planning with clients and caregivers, as well as their views of its place within the scope of OT practice.

Based upon this study's findings, approximately 85% of occupational therapists in home health settings address either or both emergency preparedness and personal evacuation planning. For these therapists, it appears that discussing medical alert programs is one of the most common ways that emergency preparedness is addressed. When addressing personal evacuation planning, the reduction of home hazards and planning around unsafe access features are the two most commonly used methods. In addition, approximately 71% of therapists address residential fires. It also seems that the collaboration of occupational therapists and other medical professionals is associated with higher percentages of clients receiving services addressing emergency preparedness and/or personal evacuation planning.

There are barriers that may prevent these areas of concern from being addressed by occupational therapists. It is not uncommon for emergency preparedness to be not considered during treatment. In other cases it is not addressed due to time constraints or reimbursement policies. However, as the current survey indicates, the vast majority of occupational therapists feel that emergency preparedness does have a place within OT's scope of practice and consider it an important area of concern.

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## Appendix

### Emergency Preparedness Survey

#### Occupational therapy, emergency preparedness and personal evacuation planning.

<p><b>1: How many years have you practiced as an Occupational Therapist?</b></p> <p> <input type="checkbox"/> Less than 5 years                      <input type="checkbox"/> Between 6 and 10 years                      <input type="checkbox"/> Between 11 and 15 years  <input type="checkbox"/> Between 16 and 20 years                      <input type="checkbox"/> Greater than 20 years </p>
<p><b>2: Do you currently work in, or have you previously worked in a home health setting?</b></p> <p><input type="checkbox"/> Yes   <input type="checkbox"/> No</p> <p>(If "No" is selected please stop here and return the questionnaire. If "Yes" is selected please complete the questionnaire.)</p>
<p><b>3: How many years have you practiced in a home health setting?</b></p> <p> <input type="checkbox"/> Less than 5 years                      <input type="checkbox"/> Between 6 and 10 years                      <input type="checkbox"/> Between 11 and 15 years  <input type="checkbox"/> Between 16 and 20 years                      <input type="checkbox"/> Greater than 20 years </p>
<p><b>4: How many clients do/did you work with during an average week? _____</b></p>
<p><b>5: How many treatment sessions does/did a client normally receive? _____</b></p>
<p><b>6: As defined by the U.S. Census Bureau, what geographical region is your current or most recent home health practice in?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <i>New England Division:</i> Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont</li> <li><input type="checkbox"/> <i>Middle Atlantic Division:</i> New Jersey, New York and Pennsylvania</li> <li><input type="checkbox"/> <i>East North Central Division:</i> Illinois, Indiana, Michigan, Ohio and Wisconsin</li> <li><input type="checkbox"/> <i>West North Central Division:</i> Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota</li> <li><input type="checkbox"/> <i>South Atlantic Division:</i> Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia and West Virginia</li> <li><input type="checkbox"/> <i>East South Central Division:</i> Alabama, Kentucky, Mississippi and Tennessee</li> <li><input type="checkbox"/> <i>West South Central Division:</i> Arkansas, Louisiana, Oklahoma and Texas</li> <li><input type="checkbox"/> <i>Mountain Division:</i> Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming</li> <li><input type="checkbox"/> <i>Pacific Division:</i> Alaska, California, Hawaii, Oregon and Washington</li> </ul>
<p><b>This questionnaire will ask questions regarding both emergency preparedness and personal evacuation planning.</b></p> <p><b>Within the context of this questionnaire <u>emergency preparedness</u> refers to any activity or precaution prior to the event of an emergency or disaster that is intended to reduce the likelihood of an emergency occurring, reduce the impact of said event, and increase a person's chances of survival.</b></p> <p><b><u>Personal evacuation planning</u> is considered to be a specific component of emergency preparedness and refers <u>only</u> to those activities and preparations intended to facilitate a person's escape from an emergency or disaster event.</b></p>

For the following questions, please answer with respect to either the current home health setting you practice in or your most recent such practice.

**7: Which of the following possible emergency events have you addressed with home health clients?** (check all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> Residential fire   | <input type="checkbox"/> Widespread fire (e.g., forest fires)               |
| <input type="checkbox"/> Earthquake         | <input type="checkbox"/> Bomb threat/terrorist attack                       |
| <input type="checkbox"/> Flooding           | <input type="checkbox"/> Hazardous material incident (e.g., chemical spill) |
| <input type="checkbox"/> Hurricane          | <input type="checkbox"/> Other _____  |
| <input type="checkbox"/> Tsunami/Tidal wave |   |
| <input type="checkbox"/> Tornado            | <input type="checkbox"/> None of the above                                  |
| <input type="checkbox"/> Landslide          |   |

**8: In what manner do you normally address emergency preparedness and personal evacuation planning with your clients?** (check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Discussion and planning with the <u>client</u>  | <input type="checkbox"/> Discussion and planning with the <u>client's caregivers</u>           |
| <input type="checkbox"/> Practice drills   | <input type="checkbox"/> Providing educational literature (e.g., American Red Cross pamphlets) |
| <input type="checkbox"/> Home assessments  | <input type="checkbox"/> Other _____   |
| <input type="checkbox"/> Referral to other emergency service agencies (e.g., a local fire dept. or the American Red Cross) | <input type="checkbox"/> None of the above   |

**9: Which of the following aspects of emergency preparedness do you commonly address with clients?** (check all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Creating an emergency kit  | <input type="checkbox"/> Setting up a notification system appropriate for the client's needs (e.g., a fire alarm with a flashing light or a family member who informs them of emergency announcements) |
| <input type="checkbox"/> Obtaining and storing back-up assistive devices  | <input type="checkbox"/> Addressing whether participating in a medical alert system is appropriate   |
| <input type="checkbox"/> Designating one or two relatives/friends to contact the client during an emergency or disaster event | <input type="checkbox"/> Stockpiling necessary medications   |
| <input type="checkbox"/> Identifying local/community emergency service providers  | <input type="checkbox"/> Obtaining a cellular phone as back-up for land lines  |
| <input type="checkbox"/> Addressing how the client can instruct others in operating necessary medical/assistive devices       | <input type="checkbox"/> Other _____   |
| <input type="checkbox"/> Creating a schedule for clients and/or their caregivers to review their preparations                 | <input type="checkbox"/> None of the above   |

<b>10: Which of the following aspects of <u>personal evacuation planning</u> do you commonly address with clients? (check all that apply)</b>	
<input type="checkbox"/> Planning evacuation routes <input type="checkbox"/> Reducing home hazards and obstructions <input type="checkbox"/> Posting maps of or directional markers for designated evacuation routes <input type="checkbox"/> Designating a meeting place outside the client's residence <input type="checkbox"/> Locating a local, accessible evacuation shelter	<input type="checkbox"/> Address plans for unsafe access features (e.g., wheel-chair ramps) <input type="checkbox"/> Addressing how the client can instruct others in how to operate evacuation tools (e.g., evacuation chairs) <input type="checkbox"/> Other _____ <input type="checkbox"/> None of the above
<b>11: On average, with what percentage of your home health clients do you address <u>emergency preparedness</u> with? (check one)</b>	
<input type="checkbox"/> 0% (If selected skip question 13) <input type="checkbox"/> 1 - 25% <input type="checkbox"/> 26 - 50% <input type="checkbox"/> 51 – 75% <input type="checkbox"/> 76 – 100%	
<b>12: What is the most common reason for not addressing <u>emergency preparedness</u> with a client?</b>	
<b>13: At what point during your clients' treatment do you normally address <u>emergency preparedness</u>? (check all that apply)</b>	
<input type="checkbox"/> During their initial intake evaluation <input type="checkbox"/> During their final discharge evaluation <input type="checkbox"/> Throughout the course of their treatment	
<b>14: On average, what percentage of your home health clients do you address <u>personal evacuation planning</u>? (check one)</b>	
<input type="checkbox"/> 0% (If selected skip question 16) <input type="checkbox"/> 1 - 25% <input type="checkbox"/> 26 - 50% <input type="checkbox"/> 51 – 75% <input type="checkbox"/> 76 – 100%	
<b>15: What is the most common reason for not addressing <u>personal evacuation planning</u> with a client?</b>	
<b>16: At what point during your clients' treatment do you normally address <u>personal evacuation planning</u>? (check all that apply)</b>	
<input type="checkbox"/> During their initial intake evaluation <input type="checkbox"/> During their final discharge evaluation <input type="checkbox"/> Throughout the course of their treatment	

**17: Are there any other medical professionals with whom you collaborate in your current or most recent home health practice who also addresses/ed emergency preparedness and/or personal evacuation planning? (check all that apply)**

- |   |  |
|---|--|
| <input type="checkbox"/> Physical therapist           | <input type="checkbox"/> Social worker     |
| <input type="checkbox"/> Registered nurse             | <input type="checkbox"/> Other _____       |
| <input type="checkbox"/> Speech therapist/pathologist | <input type="checkbox"/> None of the above |

**18: In a few sentences please describe what role do you believe occupational therapy can play in emergency and disaster response as a whole.**

**19: In a few sentences please describe your thoughts on personal evacuation planning in respect to the scope of occupational therapy.**

Thank you for your participation; it is greatly appreciated.

Please return surveys to:

OT Dept. Attn: Paul Noakes  
University of Puget Sound  
1500 N. Warner St. CMB 1070  
Tacoma, WA, 98416-1070

Table 1

Demographics: The number of years experience held by respondents

	OT practice experience	Home Health experience
Years	Frequency	Frequency
< 5 years	4 (4.5%)	29 (33.0%)
6 – 10 years	11 (12.5%)	17 (19.3%)
11 – 15 years	6 (6.8%)	18 (20.5%)
15 – 20 years	11 (12.5%)	5 (5.7%)
> 20 years	56 (63.6%)	19 (21.6%)

*Note: N = 88*

Table 2

## Geographical Regions of Respondents

Geographic Region	Geographic Division	<i>N</i> = 88 Frequency
Northeast	New England	6 (6.8%)
	Middle Atlantic	17 (19.3%)
Midwest	East North Central	17 (19.3%)
	West North Central	4 (4.5%)
South	South Atlantic	15 (17.0%)
	East South Central	1 (1.1%)
	West South Central	3 (3.4%)
West	Mountain	6 (6.8%)
	Pacific	19 (21.6%)

*Note:* The frequency and percentage of responses from the four regions can be found by adding up the frequencies and percentages of each region's divisions; i.e., the West had a frequency of 25 (6 + 19) and a percentage of 28.4 (6.8 + 21.6).

Table 3

## Types of emergencies addressed by therapists

Types of emergency & disaster event	<i>N</i> = 88 Frequency
Residential fires	62 (70.5%)
Tornado	18 (20.5%)
Hurricane	11 (12.5%)
Flooding	10 (11.4%)
Earthquake	8 (9.1%)
Hazardous material incident	7 (8.0%)
Widespread fire	7 (8.0%)
Bomb/terrorist threat	2 (2.3%)
Landslide	1 (1.1%)
Tsunami	1 (1.1%)
Other	12 (13.6%)
None of the above	20 (22.7%)

*Note:* Selections and frequency for “other” included: 1) snow/winter storms – 6, 2) power outage – 6, 3) universal precautions – 1, 4) falls – 1, and 5) pandemic flu – 1

Table 4

Methods of addressing emergency preparedness selected by respondents

Methods of addressing emergency preparedness	<i>N</i> = 87 Frequency
Discussion & planning w/ client	62 (71.3%)
Discussion & planning with caregivers	58 (66.7%)
Home assessments	58 (66.7%)
Referral to other emergency service	19 (21.8%)
Providing educational literature	8 (9.2%)
Practice drills	7 (8.0%)
Other	3 (3.4%)
None of the above	15 (17.2%)

*Note:* The three selections for “other” include – contacting a social worker, home assessments for none-emergency reasons, and employing state emergency management information.

Table 5

## Aspects of emergency preparedness addressed

Content addressed	<i>N</i> = 88
	Frequency
Discuss medical alert programs	47 (53.4%)
Designate emergency contacts	39 (44.3%)
Obtain cellular phone as back up	31 (35.2%)
Identify local emergency services	28 (31.8%)
Adjust alarm systems	20 (22.7%)
Address client's ability to direct care	14 (15.9%)
Store back up assistive tech	14 (15.9%)
Create emergency kit	13 (14.8%)
Stockpile medication	4 (4.5%)
Create preparation review schedule	3 (3.4%)
Other	8 (9.1%)
None of the above	18 (20.5%)

*Note:* Write in "other" selections included: 1) alternative exits 2) discussion with O<sub>2</sub> provider, 3) ensuring cordless landline, 4) moving to safe location, 5) keeping a current medication list available, 6) locating accessible food shelters – selected 2 twice, and 7) contacting emergency service provider to request being put on list of local persons with a disability.

Table 6

## Aspects of personal evacuation planning addressed

Content addressed	<i>N</i> = 88
	Frequency
Reducing home hazards/obstructions	70 (79.5%)
Address plans for unsafe access features	54 (61.4%)
Planning evacuation routes	32 (36.4%)
Identifying local accessible shelter	9 (10.2%)
Designating rendezvous outside of home	8 (9.1%)
Address client ability to direct use of evacuation tools	7 (8.0%)
Posting evacuation route map and/or directions	3 (3.4%)
Other	1 (1.1%)
None of the above	16 (18.2%)

*Note:* Selection for “other” was contacting emergency service provider to request being put on list of local persons with a disability

Table 7

Frequency at which emergency preparedness and personal evacuation are addressed.

Percentage of clients area is addressed with	Emergency Preparedness Frequency	Personal Evacuation Planning Frequency
0%	12 (13.6%)	12 (14.8%)
1 – 25%	24 (29.6%)	27 (33.3%)
26 – 50%	14 (17.3%)	14 (17.3%)
51 – 75%	13 (16.0%)	10 (12.3%)
76 – 100%	18 (22.0%)	18 (22.2%)

*Note: N = 81*

Table 8

## Other Professionals

Other medical professionals collaboration takes place with	<i>N</i> = 87 Frequency
Physical Therapist	55 (63.2%)
Registered Nurse	55 (63.2%)
Social Worker	36 (41.4%)
Speech Therapist	12 (13.8%)
Other	12 (13.8%)
None of the above	12 (13.8%)

*Note:* “Other selections included: 1) fire/police dept., 2) “VRT” (undefined), 3) home health aide, 4) elder services, 5) caregivers, 6) physician, once each and 7) case manager – selected 5 times.