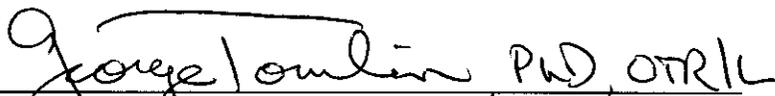


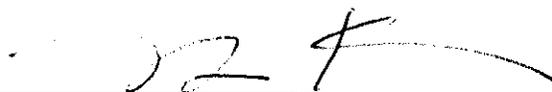
Healing Haiti: The Experience of an Occupational Therapist
in Disaster Response

May 11, 2011

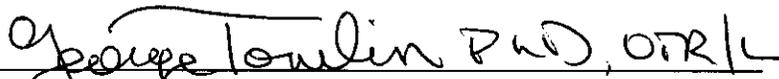
This research, submitted by Lauren Riggers, has been approved and accepted
In partial fulfillment of the requirements for the degree of
Master of Science in Occupational Therapy from the University of Puget Sound.



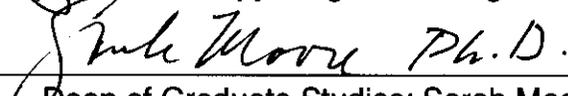
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Abstract

Within the occupational therapy literature, only one documented experience of occupational therapists practicing in a natural disaster setting was found, however several articles hypothetically discuss the role that occupational therapy can play following a natural disaster (Scaffa et al., 1998; Schoessow, 2009; Strzelecki, 2011). Thus, the primary goal of this project was to document the experiences of an occupational therapist who aided in the early post-earthquake response in 2010 in Haiti. A series of in-person interviews afforded a unique and in-depth insight into the occupational therapist's experiences. Key concepts included the occupational therapist's role as a holistic health practitioner, a teacher, and psychosocial support system, the need to remain flexible and adjust in an ever-changing environment and the ability to deliver effective intervention despite limited resources in an austere environment. Occupational therapists markedly contribute to disaster relief efforts because of the holistic-centered health care they provide to their patients. In their service delivery, they seek to create a better fit between the person and their environment through adaptation and accommodation, which translates well into working in settings, such as post-natural disaster situations, that are unpredictable and ever-changing. Additionally, this work provides a framework to aid occupational therapists in conceptualizing their role in future disaster responses.

After the recent 2010 earthquake in Haiti, emergency response workers provided much-needed medical attention to those whose lives were suddenly and irrevocably impacted. Haiti was already among the poorest of nations, struggling to rebuild after centuries of occupation by the French and U.S., having only relatively recently been granted its independence in 1804 (CIA World Factbook, 2011). However, years of political instability coupled with a lack of infrastructure have resulted in the country's continued struggles, especially with education, public services, and healthcare. Then, on January 12, 2010 a magnitude 7.0 earthquake struck Haiti, epicentered just 35 miles from Port-au-Prince (USGS, 2010). Hundreds of thousands of people who already struggled to successfully manage their everyday demands were affected.

Millions of people around the world watched the heartbreaking news footage from Haiti and many were compelled to help. Organizations such as the Red Cross helped collect and distribute necessary supplies and gathered funds to aid the devastated population. Others such as the National Guard, Doctors Without Borders and Healing Hands for Haiti (HHH) began organizing and deploying medical teams to assist with recovery efforts. Prior to the earthquake, Healing Hands for Haiti had visited the country regularly to provide physical rehabilitation and medical attention, specifically services and assistive devices including orthoses, wheelchairs, and prosthetics to people living in Haiti. At that time HHH was the only organization serving Haitians requiring physical therapy and occupational therapy. After the earthquake, an estimated additional 4000

people required the use of prosthetics and/or assistive devices, leaving HHH flooded with patients while attempting to rebuild their earthquake-damaged clinic (HHH, 2010a, p. 1).

Despite providing services for Haiti for more than ten years, until this point HHH had never participated in an emergency response of this magnitude. A pre-planned mission trip for February 2010 had to be significantly altered after the earthquake, as the clinic built by HHH six years earlier had been destroyed (HHH, 2010b, p. 1). Meanwhile, volunteers had to shift their focus to providing care in a disaster setting. Without substantial time to organize, undoubtedly the volunteer organization's emergency response was a mixture of challenges and successes. The experience of these volunteers can provide not only an interesting, but also a valuable, documentation of crisis response by medical professionals in a developing country. Theoretically, occupational therapy has a great deal to offer people affected by such tragedies. The HHH response in Haiti affords a unique case study of one occupational therapist's experiences providing care in the wake of disaster.

Background

In an increasingly globalized society the economies, policies, and cultures of countries around the world are in continuous contact with each other. This is particularly true in times of duress or disaster, when tragic images overwhelm television screens and news feeds worldwide. Many feel compelled to act, often in the form of monetary donations to nongovernmental organizations (NGOs) and international nongovernmental organizations (INGOs). Those with specialized

skills, such as advanced medical training, may wish to play an active role in the emergency response effort and volunteer their services. This variability in the types of donations, including money, supplies, and personnel, combined with the multitude of organizations and individuals they come from, requires a strong organizational structure to ensure that resources are allocated appropriately. To most effectively respond, planning and organization must take place before the disaster occurs (Landesman, 2001). Such infrastructure allows for the most effective and cohesive response, even in the wake of an event that evokes panic and feelings of helplessness. Advanced study and planning for how healthcare professionals, including occupational therapists, might be utilized in this setting would facilitate a more effective and successful outcome.

Haiti's history. To understand the implications of the natural disaster it is essential to place the event in the context of the history of Haiti. The nation of Haiti occupies the westernmost half of the island of Hispaniola, which lies between the Caribbean Sea and North Atlantic ocean (CIA World Factbook, 2011). The indigenous population of Taino Ameri-Indians occupying Hispaniola was decimated by Spanish explorers, who briefly occupied the entire island until surrendering the Western half to the French in 1697 (CIA Worldfact Book, 2010). After more than a century of French rule, citizens of Haiti revolted and the nation was granted its independence in 1804. The years of deforestation and ill effects of monocropping sugar cane under colonial rule left the country in environmental ruin, and no longer able to export wood, their former primary cash crop (CIA Worldfact Book, 2011).

This economic blow, coupled with marked political instability resulted in Haiti becoming one of the poorest nations in the Caribbean. According to the CIA WorldFactbook (2011) Haiti has:

80% of the population living under the poverty line and 54% in abject poverty. Two-thirds of all Haitians depend on the agricultural sector, mainly small-scale subsistence farming, and remain vulnerable to damage from frequent natural disasters, exacerbated by the country's widespread deforestation. (p. 3)

In early 2011, the Republic of Haiti was governed by Prime Minister Jean-Max Bellerive and has enjoyed relative stability since the deployment of several United Nations peacekeeping missions in 2004 (CIA World Factbook, 2011). Still, the widespread poverty of this country has left little economic support for health care systems. Currently, by law Haitians have access to health care in the private sector, but in practice cannot afford it. According to Wong (2009) those who are unable to employ the private sector's services are forced to seek medical attention from sub-par, under-funded, and overextended health care specialists in the public sector. The public sector, which is comprised mainly of free clinics, does not have adequate supplies, personnel, or training to meet the medical needs of the population (Pan American Health Organization [PAHO], n.d.a). In addition to problems with access to health services, there are other problems that contribute to the poor health of Haiti's population. For example, prior to the 2010 earthquake, the only source of clean water was provided by public institutions within Port-au-Prince. These facilities were damaged during the earthquake, leaving the rest of the country vulnerable to a multitude of opportunistic diseases (PAHO, n.d.b). The difficulties in medical care are further exacerbated by lack of

emergency transportation, and deeply held cultural beliefs. Many Haitians opt to recuperate at home or simply do not seek medical care at all except in dire emergency situations (PAHO, n.d.b.; HHH occupational therapist, personal communication, July 30, 2010). Seeing this gap in care, in 1998, a U.S.-based group of medical volunteers from an organization (from HHH) traveled to Haiti to begin providing care to Haitian citizens who would have otherwise not received medical attention.

Healing Hands for Haiti. HHH began providing Haiti with international medical aid over a decade before the 2010 earthquake. They sent their first 15-person multidisciplinary team from Salt Lake City, Utah, to Port-au-Prince in 1998. This team, comprised of doctors, nurses, physical therapists and occupational therapists, traveled to Haiti with the intent to “teach physical rehabilitation and treat adults and kids with physical disabilities” (HHH, 2010c, p. 2). With increased volunteer and financial support, in 2000 the organization was able to build the Kay Kapab Clinic to augment the care provided by international HHH healthcare providers. The mission of HHH eventually extended beyond simply providing needed medical attention for underprivileged Haitian citizens, and grew to training Haitian healthcare workers. Prior to the 2010 earthquake, HHH (with the Kay Kapab Clinic) was the only organization in the country providing prostheses and orthoses to Haitian citizens. As HHH explains:

To date, more than 1,000 prostheses and orthoses have been fabricated and fitted to patients in our facility. As of today, six full time Haitian technicians produce nearly all the limbs and braces fabricated in our workshop in Port-au-Prince. North American orthotists and prosthetists now serve as supporters, helping with on-going training and coordination, assisted

greatly by the international community. The primary care has been handed over to capable Haitian hands (HHH, 2010c, p. 1).

In this way, HHH has created a means for Haitians to receive training and provide essential medical services within their own country, eliminating the need for indefinite dependence upon foreign medical personnel.

Although they have significantly fewer resources in terms of monetary support, supplies, or available personnel when compared to a governmental organization, HHH plays a unique and critical role in the population it serves by being the only organization to provide help to persons with amputations. In the wake of the 2010 earthquake, this essential service was even more in demand. Thus, HHH decided to not only provide general medical attention to injured persons, but also to assist the influx of individuals with amputation injuries (HHH, 2010b, p. 1). HHH's response to the 2010 earthquake offers a powerful case study for understanding the role of occupational therapy in disaster response.

Natural disaster response. The nature of natural disasters is such that it is impossible to predict where or when they will occur. However, a proposed plan of action in response can be determined ahead of time, so that in a time of crisis it can be swiftly implemented. Abolghasemi et al. (2006) noted the following:

Responses to disaster primarily are the responsibility of local, regional and national authorities. The provision of international disaster relief, however, is critical in helping to meet conditional health needs that result from the destruction of healthcare facilities as well as from the disaster itself (p. 141).

While such protocols will never be wholly applicable to every disaster, they provide a foundation for a plan of action that can be situationally adapted.

Deployment organization. During his assessment of the 2004 tsunami affecting Indonesia, Leitmann (2007) identified several necessary elements of a successful response, and debunked many myths surrounding the efficacy of a response. He emphasized that aid must be prioritized and organized in order to be effective. As Leitmann (2007) noted, “a hasty response not based on impartial evaluation can be counterproductive. Unrequested goods are inappropriate, burdensome, divert scarce resources, and more often burned than separated and inventoried” (p. 150). This point cannot be emphasized enough – blindly sending monetary donations to a place in the wake of disaster can actually do more harm than good and be ineffective in helping the individuals most devastated by such events.

Elements of an effective response. A review of medical natural disaster-related literature revealed key elements of a successful disaster response. Experts agree that some sort of disaster protocol should be in place before a natural disaster occurs, including strategies to verify advanced medical training for volunteers, plans for provisioning of medical supplies, and a general plan of action once the medical team arrives at the site (Harrald, 2006). Other aspects of the plan to consider include an organized deployment of the team with a predetermined team leader, identification of potential local persons (with or without medical training) who may be able to assist in the recovery effort, the ability to train local healthcare workers, and the development of a system of long-term and follow-up support for those treated (Silverman, 2006).

Self-sufficiency and psychosocial support of volunteers. The ability to provide the best care possible, even in the midst of unimaginable trauma, remains at the forefront of an effective response. Relief workers may not only be responsible for being their own psychosocial support, but may also take on this role for their fellow responders. Leiby (2008), a relief worker deployed in the 2005 Hurricane Katrina response, highlighted the importance of self-sufficiency and autonomy of the volunteer response when she recalled,

While working [in the hospital], I made several interesting observations of the staff nurses. The institution's nursing staff had come from many area hospitals that had been destroyed or damaged in the storm. Most had experienced personal and property losses, or at least damage. All of them functioned with an uncertain financial or occupational future, and the work atmosphere was charged with an underlying tension. This experience taught me the need for the "I'll-do-anything" mind-set (p. 86).

Leiby's experience emphasizes the importance of ensuring that those deployed to disaster-struck regions have experience in dealing with these types of crises or are prepared for the level of trauma they will confront. Addressing the personal care of responders before, during, and after the disaster response could greatly benefit the overall success of an organization.

Spending an extended amount of time in a high-stress environment will cause considerable strain on volunteers. When the group of HHH volunteers arrived in Haiti, they were not only faced with determining what the best course of action would be, but also with their own psychosocial adjustment. One occupational therapist who visited Haiti with HHH just 3 weeks after the earthquake remarked that she became desensitized to the constant images of

widespread suffering and even death (HHH occupational therapist, personal communication, July 30, 2010). In these situations, the role of an occupational therapist can be invaluable in providing psychosocial support to both volunteers and the population affected. As Scaffa, Gerardi, Herzberg and McColl (2006) noted, “both for short-term, ‘normal’ stress reactions and those that persist over time, occupational therapy practitioners provide supportive, informative, and educational counseling as well as a crisis intervention to help survivors deal with the consequences of their experience” (p. 646).

Local assistance and long-term support. While organizing a local response to include the help of citizens may seem daunting, it is essential to identify any local persons who may be able to help both in the short and long-term. As Landesman (2001) explained, “disaster planning should focus on a *local* response with federal and state support. In any major natural disaster, the main rescue effort will most likely be executed by local authorities” (p. 110). Those familiar with the terrain, people, cultural customs and language are an invaluable resource in helping to organize and implement strategies. Often, the connections and intimate knowledge of local individuals will not only save time, but can also allow a project to more effectively reach its intended populace. The support of local residents is also critical for relaying information and resources regarding follow up care to those who received acute care. It is impractical to rely on foreign medical aid long-term; thus, training local individuals in effective health care practices offers a needed long-term continuity for patient care.

Relevance of disaster response to occupational therapy. The dearth of published research suggests that occupational therapists represent a vastly underutilized resource in current disaster response worldwide. As set forth in the Occupational Therapy Practice Framework II (AOTA, 2008) occupational therapists contribute their unique expertise to patient care, taking client factors, contexts and environments into consideration as they devise client-centered treatment plans in order to best suit their service delivery. The author completed an exhaustive literature review, and only one study chronicling actual experience of an occupational therapist working in disaster relief could be found, although several articles hypothetically discuss the roles that occupational therapists could play. As VanLiet and Crowe (2009) explained:

Working internationally highlights occupational therapy principles that provide the under-girding of exemplary practice. Setting aside assumptions that pre-laid plans; letting the reality on the ground guide decision-making and acting; respecting local culture; creating strong programs through local participation and capacity building; attending to system issues; building bridges through attention to language and communication; valuing the uniqueness of occupational therapy are all critical to respectful, effective occupational therapy in any setting (p. 91).

Each of these features of occupational therapy offers a strong foundation for addressing disaster response. The components of a disaster response, which include the need for a predetermined plan of action that can be adapted based on circumstances in order to provide the best care for a client, mirror the expectations of occupational therapists as defined by OTPF-II. In reflecting upon her experience as an occupational therapy practitioner involved in the 2010 Haitian earthquake response, Strzlecki (2011) wrote,

[Occupational therapists] identified things like being able to manage the transfer of someone, and potentially doing wound wrapping because many people had amputations and hadn't been getting any attention for that. [...] We identified very basic range-of-motion exercises and what Haitian volunteers could do to potentially modify everyday items so people could, say, brush their teeth (p.19).

Occupational therapy services can be utilized in a wide variety of settings and the role of an occupational therapist in international disaster response is beginning to be understood and valued. Employing occupational therapy intervention, which is holistic in nature, could augment the existing disaster relief response.

HHH has included occupational therapy in the services provided to Haitians during times not marked by disaster and also included OT in the disaster response. The Pacific Northwest-based team deployed by HHH consisted of a multitude of healthcare workers, including occupational therapists. These occupational therapists played an integral role in providing care for Haitian citizens and members of the response team following the 2010 earthquake. An in-depth evaluation of the disaster response of HHH, specifically the role that occupational therapy played, could improve the efficacy of future response to future disaster situations worldwide.

Purpose of the study. Within the occupational therapy literature, only one documented experience of occupational therapists practicing in a natural disaster setting was found, however several articles hypothetically discuss the role that occupational therapy could play following a natural disaster (Scaffa et al., 1998; Schoessow, 2009; Strzelecki, 2011). Thus, the primary purpose of this project was to document the experiences of an occupational therapist who aided in the

emergency response after the Haitian earthquake of 2010, and in doing so, aid understanding of how occupational therapy might be used in future disaster response.

Method

Research Design

The author employed an interview-based, case study method with qualitative research elements to explore the experiences of one occupational therapist on the HHH disaster response team. A case study approach for this research was appropriate due to the dearth of information on occupational therapists contributing to disaster relief (Yin, 1994). Furthermore, a series of in-depth interviews with the occupational therapist, Hope (*a pseudonym) afforded insight into the effects of a natural disaster on service delivery, the role that occupational therapists can provide in similar situations, and the ways in which occupational therapists might be more effectively utilized in disaster response.

Participants

The experiences of one of the few occupational therapists to directly respond to the Haitian earthquake with HHH was the primary focus of this case study. A research advisor suggested the primary participant for this study, as she is a graduate of the occupational therapy program where the advisor taught. Currently, she works at an outpatient rehabilitation center in the Pacific Northwest and has been practicing since 2005. Her specialty includes neuroscience and splinting with adult clients. She became involved with HHH after hearing about the organization from a nurse on her floor. She spent two

weeks in Haiti during February 2009 with HHH and returned again three weeks after the earthquake in 2010. She was fully aware that her service delivery could be adversely affected by a lack of supplies, widespread chaos, and a lack of infrastructure, and had no formal training to prepare her for a role in disaster response. Thus, her experience speaks not only to the role of occupational therapists in aid work but also to the context of her encounters with Haitian medical infrastructure after this major natural disaster.

In a preliminary interview, the occupational therapist introduced the author to the nurse working with HHH. Although this project centered on the role of occupational therapy in disaster relief, a nurse volunteering with the HHH group at the same time was interviewed in order to learn about her perceptions of the occupational therapist's contributions to this project. The nurse's experiences served as an opportunity to triangulate the data collected from the occupational therapist.

Instrumentation

Data were collected during three formal interviews, and four follow-up emails for a total of four hours of audiotape. The interviews followed the trajectory of the occupational therapist's experiences and her team member's experiences; from when the team was preparing for its trip, to when the earthquake occurred, to arriving in Port-au-Prince, to the experience of participating in a disaster response, and ending with the occupational therapist's thoughts about the experience as a whole. The interviews used both structured and semi-structured questions. (See Appendix B for interview guide.) The author

approached each interview with questions specifically focused on each of these time spans, but also allowed the interview to be led by the participants, so that the information that they deemed most important would be shared.

Procedures

Once the author's project received university Institutional Review Board approval, the occupational therapist and nurse were given informed consent forms. Three interviews in the occupational therapist's hometown were conducted in the Spring of 2011. Interviews with the occupational therapist and nurse were audio recorded, and then professionally transcribed verbatim. The author reviewed the transcripts and the recordings from these interviews to ensure their accuracy. Transcripts were preliminarily coded as they soon as they were returned by the transcriptionist, in the event that if questions arose, they could be addressed in future interviews.

Data Analysis

During the interviewing process, the author kept field notes about her experiences with the project (Krefting, 1991). Transcripts were analyzed for topics and key concepts that were repeatedly discussed within the data (Yin, 1994). The author employed member checking with the occupational therapist during the second and third interviews and four times via email (Krefting, 1991). Data were coded using a pattern-matching approach, where information gleaned from the interviews was compared against initial research found from literature reviews (Yin, 1994).

Results/Discussion

Through in-depth interviews with the occupational therapist (OTR/L) and registered nurse (RN), this project has afforded an in-depth perspective on the previously understudied topic of occupational therapy in the 2010 disaster response in Haiti. Transcripts were read and marked by hand, and key quotations that corresponded to key concepts were pulled from the data and used as subject headings. The software Inspiration™ was utilized as an additional data analysis tool. A log was kept during data collection and analysis detailing the amount of time spent analyzing and coding data, which was approximately 50 hours total.

Prior experiences in Haiti. In order to gain a better understanding of the disaster relief situation in Haiti, Hope detailed her experience providing occupational therapy intervention there one year earlier. She stated that in February of 2009, her first trip with the HHH team was generally spent working in pediatric clinics, traveling to some of the more rural communities and providing education to native Haitian health care workers. Care was provided in public and private clinics, and orphanages where diagnoses ranged from cerebral palsy, spinal cord injuries, stroke to various developmental delays. The prognoses of many of her patients were significantly worse than their American counterparts as many had lain unattended in hospital beds or in orphanages. Without access to the same medical resources and social services and very different ideological perspectives on health care, Hope's service delivery in Haiti was significantly more challenging than in the United States. When I asked her to expand on this topic she explained,

Haiti is a country that is 90% Catholic and 100% voodoo--- that is how they describe themselves. And how they view disability is starkly different that how [Westerners] view disability. I mean, [the disabled in Haiti] are demons to get away from and they should be cast away because you don't want it to affect other family members. So, when someone [from Haiti] chooses to actually work with disabled people who have been cast away--- that says a lot.

Not surprisingly, given the cultural stigma surrounding disability and disease, the facilities that do provide care for the disabled population are understaffed and have limited resources. Hope recounted that oftentimes in an orphanage there would be one wheelchair per five children, all of whom required its use. Rather than customizing a wheelchair to one user, Hope explained that in order to be effective in her service delivery, and provide the best outcomes for all, her best option was to pad the sharp surfaces of the chair and place a cushion that would seemingly fit all children who would use it. This story is merely one example of the significant lack of resources available to patients before the earthquake.

Additionally, Hope explained that a significant portion of her first trip was providing education to current therapists and patients on several aspects of health care. She recounted that because there are no formal occupational therapy or physical therapy educational programs in Haiti, that the vast majority of "therapists" are self-taught and may have minimal medical education.

Key Concepts. Through the experiences and perspective of one occupational therapist, named Hope*, the data collected in my interview process speak to the major concepts within the discipline. Such topics include the role of occupational therapy in disaster relief, the powerful cultural and ideological beliefs regarding those with disabilities, illness or injury, the most common

diagnoses present in a disaster situation such as this, the resources and infrastructure needed in disaster relief, and the need for caregiver education in such an environment. Each of these items highlights the role that occupational therapy can play in disaster relief. Such topics not only educate us on how occupational therapy is greatly needed and can be effectively utilized in natural disaster response situations, but also on the challenges faced by occupational therapists doing such work and the personal strain faced by occupational therapists as caregivers.

Deployment organization. Hope explained that there was little formal training provided to the HHH team prior to deployment. There were several team meetings informing team members of important information however, as one of my informants stated, “it is one of those situations that no matter how much you try to explain to somebody what they are going to encounter, its going to be different” (RN, personal communication, March 25, 2010). As Hope described,

I think [HHH] just tr[ies] to give you an overview of so many of the experiences that have been had so you can maybe start to embrace what you are going to experience, and then, also appreciate that you have to expect the unexpected.

Most of the post-earthquake supplies had been flown to Haiti earlier, including makeshift shelters, durable medical equipment, and medications. The teams who arrived in Haiti previously placed requests typically for medications or other supplies that were running low in their makeshift clinics. Essentially, she indicated that due to the unpredictability of disaster situations, preparation is difficult. However, the fact that the majority of the HHH team deployed to Haiti after the earthquake had either worked together back in the States or had been

to Haiti with HHH the year before significantly aided their success in the mission and likely afforded slightly greater emotional support within the team than would have been present among strangers.

Sheer shock and chaos. When I asked what one of her first thoughts was following the news of the earthquake, Hope stated that despite not having yet arrived, that she knew “this is not a normal aid situation.” What she meant was that given the challenges she had witnessed in the Haitian healthcare system prior to the earthquake, the immense lack of infrastructure, lack of trained professionals, and a lack of durable medical equipment, she knew all of these factors would contribute to even more severe impacts and suffering following a disaster of this magnitude. Based on her experiences in Haiti the year before and images from post-earthquake news reports, Hope gathered that the situation in Haiti that she would soon face would be exponentially more difficult than her previous experience. She stated,

I don't know that I really had this thought initially, but I had it soon after and I completely maintain it ... but being honest, the only group that has all the power, understanding and capability of handling a situation like that would be the U.S. military to go in and actually take over and fix everything.

Hope arrived on February 15th, 2010 on the first commercial flight allowed to fly into Port-au-Prince. She described this as a markedly different from her first trip to Haiti. She arrived during the daylight hours and witnessed the widespread destruction once her plane landed, as the damage could not readily be seen by air. Initially, she was struck by the emptiness of the airport, given that the year before the airport had droves of people and bustled with excitement. On this trip

there were very few individuals at the airport and an overall somber mood prevailed.

She stated that there was an odd feeling of tension among her team members, as they noted the strong U.N. military presence: armed guards from Brazil with machine guns patrolling the streets. Many of the buildings and structures she remembered from previous trips had been leveled and their own guesthouse was severely damaged. They were given one day to unpack and acclimate to their surroundings. Hope recalled a somewhat restless night, as she kept peering up to the ceiling above her head, noting a large five-foot crack in it with plaster missing. She explained, "I had to keep telling myself over and over; this has been inspected by an engineer. I'm going to be fine." On the team's first day, they were assigned to provide treatment in the medical tents organized by the University of Miami. The RN I interviewed said of the initial experience "I think it's kind of one of those things where you [think], 'wow' there is so much need. People need something. One person probably needs a house. Another person probably needs food and [...] they just need help" (RN, personal communication, March 16, 2011). Still in shock from the scenes of so much devastation, Hope and her team immediately went to work treating individuals in the tents.

The University of Miami tents were essentially makeshift shelters with literally hundreds of cots lined up in rows. Hope stated that upon arriving at the tents each day, she would begin at one end of the tent and work her way through the masses one patient at a time. Although they were not required to keep chart

notes on patients, the medical teams did so out of habit, and also as a means of communication among team members. Quickly they discovered that the basic medical practice of charting was no simple task in this setting. As Hope recounted,

You would be searching for paper. ...I remember needing to write chart notes and running around trying to find anybody who had a piece of loose leaf chicken scratch paper that I could attach onto this mound of clipboard stuff. ...It's like chicken scratching a note that is illegible with a signature that is illegible. You don't know who's been treating this patient or who has been taking the doctor's orders and following through with them.

When I asked about her role as an occupational therapist in an acute natural disaster setting she stated that her job mainly consisted of providing manual manipulation of limbs to persons who had sustained injuries during the earthquake, but had been bed-ridden ever since. Additionally, she was regularly paged by other team members, who knew her specialty back in the U.S. was neuroscience. Despite working mainly in the adult tents, she stated that she was asked to fabricate splints for pediatric patients and was regularly paged to consult with other healthcare providers if they suspected one of their patients had developed a neurological condition, such as stroke.

Due to the chaos and unpredictability of the situation, volunteers working in the medical tents had to remain flexible and adapt to the needs of the situation, responding with whatever resources they could find. There were limited supplies and equipment on hand, and Hope had to regularly think on her feet, often employing unconventional therapeutic methods. She recounted,

We did some hilarious arm exercise. We would get all the guys sitting up in bed---and they looked forward to it everyday. And they would just be

counting out in English, Spanish, French ---one guy knew Japanese or something. ...And people would clap---people who weren't even doing the exercises. It was very engaging.

With so many patients in need and a such a lack of resources, this group approach to treatment proved to be an adaptive strategy for providing care to as many individuals as possible. Furthermore, it seemingly also had a powerful effect of creating a small sense of community among the patients, aiding in lifting the spirits of all involved.

Elements of an effective response. Despite the strong military presence, Hope noted her frustration with the overall lack of organization among the military and other medical organizations. She detailed, "You don't see the military working with Mercy Corp or the Red Cross to join efforts and have like a coordinated event. And that is frustrating, because you see the potential for aid." Having no control over how the military presence was utilized, Hope (and her team) preferred to focus on their post-disaster mission. She explained that during the team meetings that took place before they deployed to Haiti that some of the only information they were given to prepare was the list of supplies that medical teams were running low on. Essentially, in this situation, it seemed that no amount of preparation would suffice, yet HHH did the best preparation it could in communicating to team members the enormity of the destruction they would likely be immersed in. She also stated that the supply list of what they would be bringing with them regularly changed, based upon feedback from volunteers already in Haiti. Overall, it appears that being open to change and the ability to

adapt to last minute changes, even before deployment to Haiti, was more important than the supply list itself.

Personal struggles. Hope explained that there was a heavy emphasis on acute treatment of patients in Haiti, whereas she was currently employed as an outpatient practitioner in the United States. Her previous trip to Haiti facilitated a transition from outpatient to acute care in the face of this critical disaster response. However, she was less prepared for the overwhelming destruction, personal suffering and such deep losses around her. As she recounted,

I remember walking [...] in front of a pediatric tent and there was this woman--- I think she was probably a grandparent---just wailing on her knees up at the sky and screaming. You don't need to speak somebody's language to know that a child was lost. And that was hard. That was a hard thing to see.

These types of emotional scenes were present throughout her time in Haiti and took an emotional toll not just on Haitians, but also the medical personnel involved in disaster relief. Additionally, these images of suffering were further exacerbated by the realization and knowledge that once she returned to the U.S. the fate of her patients would be unknown. She explained,

A little kiddo who had a spinal cord injury— he was an incomplete quadriplegic, he had a hard collar— incredibly painful I think because no one had moved him. I am sure it was painful, but then [he had] gotten stiff, so I ranged [him] like crazy. We got him up. He cried. It was partly pain and partly fear. [...] [I knew] he will make a better recovery if we could get more help. And [our team leader] was getting in touch with the Shriners to get him out of the hospital. Here is hoping the Shriners took him. [...] I want to just believe he made it. I don't have confirmation but I am pretty sure he did.

The lack of patient care continuity or the ability to chart the progress of patients or even know their outcomes was an unexpected aspect of this type of occupational therapy work. This OT and other disaster relief responders were left wondering what happened to their patients. There was little closure for this occupational therapist in this setting and her knowledge of the lack of resources continues to weigh heavily on her mind.

Self-sufficiency and psychosocial support of volunteers. Constant images of suffering and feelings of frustration, despair and chaos ultimately took a toll on many of the HHH team members. Hope stated.

It was very common to walk up to [a team member] and be like 'I just can't handle this right now' or 'I'm having a hard moment right now'. And that was great. Most people were open enough and accepting and understanding of what you were saying, and truly understand what you were saying because they were there.

She stated that she herself and a social worker, who was also a team member, provided much of the psychosocial support to patients and team members alike. She explained that there was a tremendous amount of what she termed "survivor guilt" among the volunteers. She stated, "I remember writing home to a bunch of people saying 'you all need to be incredibly thankful for your birth place, because that is all it comes down to. You won the uterine lottery.'" For Hope, witnessing not only the state of health care in a country like Haiti, but also the overwhelming impact of the earthquake highlighted the vastly different levels of health care worldwide and how insulated from this reality many in the U.S. are.

Local assistance and long-term support. During Hope's first trip, she described the possibility for follow-up visits to some of the facilities she had

previously visited. She had assumed that her planned second trip to Haiti would be similar to her first trip. Although there were therapists and healthcare workers living in Haiti at the time of the earthquake, she explained that following the earthquake these therapists were rarely, if ever utilized. As Hope described,

The only people that were Haitian down at the tents were transport people. Everyone else was a foreign team member. ...I think the [therapists] were just trying to survive on their own. You have to remember everybody's house has been affected, so all of their families had been affected, too.

This meant that the already severely limited local health care system was practically non-existent. INGOs, NGOs, and other governmental organizations were all the vital lifelines to healthcare for Haitians in this situation.

Favorable Outcomes. Despite putting in long, physically and mentally arduous days while witnessing regular images of despair and pain, Hope stated that there were several positive aspects and outcomes of her trip. She stated, "I am really proud of everything we did there. Absolutely really proud." Her positive feelings were attributed to a feeling of cohesion and camaraderie among the HHH team members. As she recounted,

We felt very comfortable— very soft in our motions. Very, very efficient and in a lot of ways, more efficient because we were not in that over-reacting response. And I wouldn't say it is because the majority of us had been before— I think that helps, but a disaster zone is different than anything else you see— even something as terrible as Haiti under normal circumstances, which is pretty bad.

Another positive, and seemingly ironic aspect following the earthquake in Haiti was the shift in the cultural belief system about disability and disease. As she explained,

The one positive piece from the earthquake is that prior to the earthquake, if you had a disability, you were shunned. You were cast out of the family because it was like a voodoo spirit that came in. The earthquake was an actual event everybody witnessed—they watched it cause disability. So there is a direct link now that these people who for whatever reason— maybe it was a stroke, or a heart attack, all your spinal cord injuries— well, they are injured because of the earthquake. Well, they are not going to be treated the same as if they had been born with cerebral palsy and not known, because they can attribute something very specific to that disability.

While this ideological shift regarding injury and illness generally pertained only to those who sustained injuries in the earthquake, this change provides some degree of comfort to this occupational therapist as she wondered about the patients whose outcomes she'll likely never know.

Relevance of occupational therapy to natural disaster response.

Hope's stories and experiences serve as powerful examples of the legitimate role that occupational therapy intervention can play in post-disaster situations. Hope was utilized in several diverse situations, including as a neuroscience specialist, providing manual manipulation for individuals who had decreased range of motion. Additionally, she provided some psychosocial support to earthquake victims and was asked to fabricate splints for pediatric patients. She recounted, "we kind of saw essentially the gamut of the types of patients you see. It was neuro, it was ortho, it was wounds, uncontrolled diabetes, high blood pressure, psych, straight up dehydration." When I asked her to discuss more of the psychosocial aspect of her service delivery, given the traumatic natural disaster that had just taken place she stated,

[There are] more pressing issues and not the time to get into that. That aside, even if you are dealing with a situation like the

earthquake, you have to understand there is a huge culture piece you have to get over. That culture does not take mental health well. Most cultures don't. Our culture doesn't take mental health well. They are not a culture that is going to be able to— they don't do psychosocial therapy there. You kind of have to come at them with coping skills without actually putting a name to it and just sort of talk with them so you are in dialogue with them. And through your own dialogue, you are guiding them and talking through some of what they have experienced.

Furthermore, Hope was regularly engaged in training caregivers of the injured on patient needs and care. The foreign support and disaster response teams would eventually leave and there would be little healthcare infrastructure. For many of these individuals, family members would become the critical resource for patient care and oftentimes to their survival. Recognizing this situation, Hope did what she could to educate caregivers on topics such as bedsores, mobility needs, and general good hygiene practices. Additionally, Hope highlighted the contributions of occupational therapy in natural disaster response. She summarized this saying,

OTs have a certain type of brain. We have to organize and create some sort of structure and purpose in everything we do. Alright, we are in chaos, but at least let's know what we do so we can use each other. Let's try to have some semblance of order.

In learning about Hope's experience and role in participating in a natural disaster response, her articulation highlighted the importance of occupational therapy in this environment. Her stories and examples illustrated the following concepts:

- Occupational therapy has a critical role in disaster response, for example in spinal cord injury treatment, amputations, etc.

- Occupational therapists engaged in disaster response need to be prepared to adapt to the situation around them.
- Occupational therapists engaged in disaster response need to be prepared for the intense emotional and psychological impact of such experiences.
- In an environment in which the medical infrastructure has been severely degraded, family caregivers are relied upon as the only possibility for follow-up or long-term care.
- Ideological beliefs and practices have a great influence on the perception and treatment of individuals with injuries, disability and diseases.
- Group treatments (when appropriate) are a viable and effective means of providing care to numerous patients at once, and additionally serve as a source of psychosocial support and community building among the injured.

Future Research

This research focused solely on the experience of one occupational therapist who participated in the disaster response in a developing country, such as Haiti. Given the large number of health care specialists who volunteered their services, it is likely that other occupational therapists provided post-earthquake therapeutic intervention as well. If these practitioners could be identified and their experiences contrasted with those of my informants, it might provide an interesting comparison. Additionally, given the recent similar natural disaster in Japan on March 11, 2011, a study contrasting the experiences of occupational

therapists who participated in the response in a developed country, could be the subject of future research. Such comparative work could bring greater insight into the role of occupational therapy in emergency response and potentially ways in which to increase the efficacy of such a response.

Limitations

This study essentially serves as a pilot study of occupational therapy's role in the disaster setting. Therefore, no other data could be compared to the data collected from this study. Furthermore, this study is limited by its focus on two informants. Certainly, other occupational therapists participating in disaster response may have had different reactions and experiences (Tupé, 2011). However, the in-depth examination of one occupational therapist in this environment affords perspective on how occupational therapy intervention could be effective in disaster response.

Conclusions

Occupational therapy is well suited in the natural disaster response environment, given its place within the allied health care community, its strongly holistic and client-centered approach to care and the medical training in neuroscience, neuromusculoskeletal functions, mental health, sensory functions that accompanies occupational therapy education and practice. Occupational therapists seek to highlight their client's abilities and match them with the environment, making adaptations and modifications where necessary. They must be able to think quickly on their feet, while still considering about the best possible long-term outcome. Because client-centered care is always at the

forefront of service delivery, occupational therapists participating in natural disaster relief efforts contribute to favorable outcomes for their clients. Through collaboration with family members, occupational therapists provide caregiver training so that clients who may have been seen in the acute care natural disaster setting have the opportunity to receive long-term care from family. These tenets of occupational therapy, which can be broadly applied across all practice settings (and namely disaster relief) contribute to more positive outcomes for patients, including better health, greater levels of independence and a higher quality of life.

This study is the first of its kind to chronicle an occupational therapist involved in therapeutic intervention in post-disaster situations. It is hoped that by shedding a favorable light on the role of OT in disaster situations that this will motivate more occupational therapists to share their experiences of disaster relief work and to feel encouraged to participate in post-disaster response. Moreover, by examining these experiences and the roles of an occupational therapist in these settings, it is hoped that future occupational therapy disaster respondents become better prepared and more effective in providing disaster relief.

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Appendix A: Additional Resources

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Appendix B

Interview Questions:

During the first interview, I plan on keeping the scope of the conversation very broad with a grand tour question such as “Tell me about your trip to Haiti”. I anticipate that there will be topics and experiences that my informant relays that I will want to cover more in-depth in future interviews, but I want to give my informant(s) license to take the conversation where she’d like. Depending upon her responses during the first interview, future interview questions may include the following:

- What was your reaction to the news of the earthquake?
- What was your reaction when you arrived in Haiti?
- What were the differences between your first and second trip to Haiti?
- How many other occupational therapists were there with you? How would you describe your role in providing services after the earthquake?
- What was the diagnosis of most of the patients you treated in Haiti?
Describe your evaluation and treatment with them.
- What was the most rewarding part of your trip? Most challenging?
- How did the earthquake impact your service delivery?
- Is there anything you wish you could have done differently?
- What advice would you give an occupational therapist interested in or going to do disaster relief work?