

Fall 2013

Knowledge, Training and Experience of Emergency Responders in the Context of Functional Needs in General Shelters

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Knowledge, Training and Experience of Emergency Responders in the Context of Functional
Needs in General Shelters

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Abstract

Objective: Gathering and analyzing information on experience, training, and professional affiliation of disaster responders who will deal with functional needs clients in general shelters.

Methods: The web-based survey administered in June, 2012 to 165 local Medical Reserve Corps (MRC) volunteers and 72 public health workers was part of a larger study designed to assess functional needs flow processes in general shelters. Descriptive statistics and simple logistic regression were used to analyze data.

Results: The response rate was 16.5%. The percent of survey respondents that had any disaster, medical, or functional needs training were approximately 80%, 70%, and 40% respectively. The four major categories of respondents included: Medical Reserve Corps (MRC) 59%, Public Health 52%, and Nursing 27%. Most participants (68%) had assisted in at least one major event. The odds of having responded to a disaster than not was 2% ($p=0.895$) greater for the amount of professional experience, 43% ($p < 0.000$) greater for disaster trainings, 20% ($p < 0.000$) lower for medical training, and 8% ($p=.017$) lower for functional needs training.

Conclusion: This study suggests that a change in disaster responder curriculum and professions as well as shifting socio-professional culture, to include functional needs will contribute to an understanding of the aspects of knowledge and training necessary for future disaster shelter workers to meet expected requirements for sheltering functional needs clients in general shelters.

Keywords: Emergency preparedness, emergency management, professional education, disaster, short-term emergency shelter, temporary shelter, accessibility, special needs

Table of Contents

Introduction.....	4
Statement of Purpose	5
Review of Literature	6
Functional Needs	6
Historical Framework and Evolution of Disaster Response in the United States.....	9
Solidification of Modern Mainstream Disaster Response Components	16
Strain on Established Disaster Response Systems.....	17
Identifying Problems; Unsuccessful Change	18
Current Influences on Modern Disaster Responders	21
Methods.....	25
Data Source	25
Data Analysis	27
Results.....	29
Discussion	37
Limitations	43
Strengths	44
Conclusions and Recommendations	44
References.....	46
Appendices.....	55
Appendix A: IRB Approval	55
Appendix B: List of Tier 1 Core Public Health Competencies Met	57

Knowledge, Training and Experience of Emergency Responders in the Context of Functional Needs in General Shelters

During emergencies, civil response agencies are tasked with the responsibility of creating shelters to house populations that are displaced (Federal Emergency Management Agency [FEMA], 2008a, 2008b). Historically these shelters have been designed for the general population (Caring for Special Needs During Disasters, 2010).

The composition of those in the general population that may seek shelter in an emergency has shifted, requiring adaptation of the emergency response system (Sherry & Harkins, 2011). Three major factors have influenced this change in composition in regards to persons with functional and medical needs and disabilities. First, the Americans with Disabilities Act (ADA) has made society more accessible to persons with disabilities (Americans with Disabilities Act [ADA], 2008; U.S. Commission on Civil Rights, 2000). Second, disability advocacy has supported a movement towards in-home care and independence rather than nursing home placement (Nielson, 2012; Oliver, 1990; Priestly, 1997). Third, a rising elderly population has increased the number of persons with functional needs requiring assistance or accommodation (World Health Organization [WHO], 2012). When combined with the increasing number of events in which acute and chronic care facilities are damaged or unavailable, it has become clear that emergency response shelters must accommodate those who may have traditionally, and at times inappropriately, been transferred to an acute care or segregated facilities (Caring for Special Needs During Disasters, 2010; Communities Actively Living Independently and Free, et al. vs. City of Los Angeles and County of Los Angeles, 2010; DeMarsh, 2012; FEMA, 2010; Hultman & Bozmoski, 2006; Saliba, Buchanan, & Kington, 2004; U.S. Department of Homeland Security [USDHS], 2006).

This study focuses on functional needs rather than disability or medical needs.

Functional needs clients are defined as those who need assistance with activities for daily living and in maintaining independence. Functional needs range from broad categories like food and shelter to those specific to the individual such as medical devices and medication (DeMarsh, 2012; FEMA, 2010).

General emergency shelters have been typically designed for healthy, ambulatory populations. These persons have been historically referred to as the general population (Caring for Special Needs During Disasters, 2010; FEMA, 2010).

The ADA and federal assistance guidelines now mandate that populations who require assistance or accommodation for functional needs in daily life, but do not require acute medical care for stabilization, be admitted and served in general populations shelters. These shelters are required to provide equal access to services which preserve dignity in a manner similar to healthy, ambulatory populations (ADA, 2008; DeMarsh, 2012; FEMA, 2010; USDHS, 2006). This requires a drastic shift in the perceptions, experiences, practices, and training of emergency response and shelter personnel (Bisin & Verdier, 2005; Caring for Special Needs During Disasters, 2010; Osterman & Kottkamp, 1993). In order to successfully integrate persons with functional needs into general emergency shelters, it is important to understand the training, professional affiliations, and experiences of shelter personnel (Saez, 2011).

Statement of Purpose

The purpose of this investigation is to describe the experience, training, and professional profile of potential general emergency shelter volunteers in the context of handling clients with functional needs as part of disaster response, specifically of emergency response volunteers in

the Greene County Combined Health District, located in the Miami Valley region, twenty miles east of Dayton Ohio.

Review of Literature

Functional Needs

Defining vulnerable populations and functional needs.

The concept of a vulnerable population is fairly broad. This category encompasses any population that has additional needs or influences outside of normal expectations that impact the ability of individuals in that population to protect themselves. As the emergency response field has struggled to address and adapt to functional needs requirements, attempts at defining target clients and need fulfillment strategies have resulted in conflicting, overlapping definitions of vulnerable populations. This muddling has caused confusion in subsequent efforts to design systems and shelters that will appropriately address their needs (Caring for Special Needs During Disasters, 2010; DeMarsh, 2012; Osterman & Kottkamp, 1993; Saez, 2011).

The following four descriptive categories stood out in the literature and appeared to encompass the majority of targeted populations: special needs¹, functional needs, medical needs, and disability (Caring for Special Needs During Disasters, 2010; Saez, 2011; USDHS, 2006). In order to establish clarity, the research design was based on the concept that the four categories are nested as sub-categories of vulnerable populations (Figure 1). Though frequently used interchangeably and subject to multiple usages (Caring for Special Needs During Disasters, 2010; Saez, 2011; USDHS, 2006), for this research effort, the four sub-categories were assigned specific definitions and classified as separate and distinct from each other (Figure 2).

¹ Special needs is a term that has been used to cover a variety of populations that span from medically fragile, to disabled, to being affected by socio-cultural influences of a person or group with needs atypical to what is expected in a presenting “general” population. Due to historical context, the most recent literature indicates that this label should be retired from use in disaster planning (Saez, 2011). This term was concretely defined for the purposes of this research based on a variety of literature. However, in the future, it may be more effective to select a more descriptive label with less historical weight for the population definition labeled in this paper “Special Needs”.

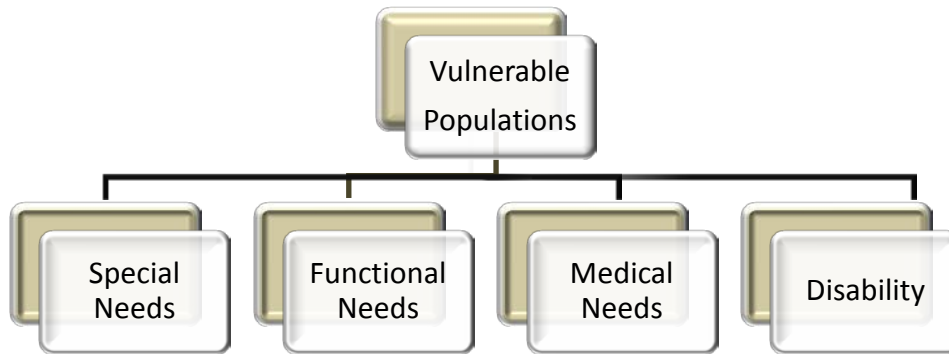


Figure 1. The four kinds of vulnerable populations are not synonymous.

Vulnerable Populations – have additional needs or influences outside of normal expectations that impact that a population’s ability to protect or serve itself. Often experiences disparity.

Special Needs Populations- have needs derived from social influences or factors. Examples: Limited language proficiency breastfeeding, pet-owners, elderly, children, families, religion, race/ethnicity, cultural and geographic influence.

Functional Needs Populations – have unfulfilled needs or require assistance related to basic activities of daily living, communication and mobility, especially to maintain degrees of independence. Examples of functional needs: toileting, transferring, hygiene, food preparation and consumption, temperature maintenance, and obtaining safe shelter.

Medical Needs Populations – require skilled nursing or medical care to maintain physical or mental health and stability as compromised by medical conditions. May be chronic and emergency independent, acute and emergency induced, or chronic/acute, not induced by, emergency influenced.

Disabled Population – as defined by the Americans with Disabilities Act (ADA, 2008).

Figure 2. Definitions of vulnerable populations and their sub-categories.

As with many determinants of health, these populations will often overlap (Figure 3) (Marmot & Wilkinson, 2009). For the purposes of this research, all populations that fall under functional needs are included even if they overlap with another category, but populations that do not fall under functional needs are not considered.

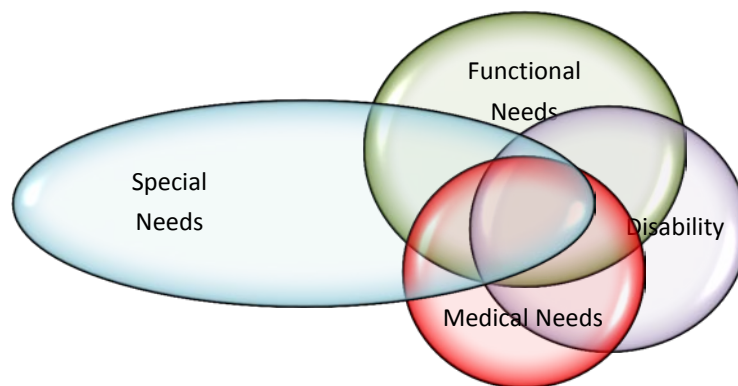


Figure 3. While the sub categories of vulnerable populations are different, they often overlap.

For example, as defined by ADA criteria, disability is similar to functional needs but not necessarily the same (ADA, 2008; Mont, 2007; WHO, 2002, 2012). This is an important distinction to remember when focusing on disabilities versus functional needs. Not all people with disabilities require assistance from emergency responders and shelter volunteers to fulfill their functional needs (WHO, 2002). Not all people who need assistance to fulfill their functional needs classify themselves as disabled (Mont, 2007).

In general shelters.

It is important to consider that every human being has functional needs. The need to feed, clothe, and protect themselves are requirements for survival (Mont, 2007; WHO, 2012). In the past, general populations were considered to be able to provide for their own functional needs in day-to-day life. Those who couldn't were defined by "Other" categories such as "special needs", "vulnerable populations" or other such classifications. Due to this particular dichotomy, emergency response has been geared toward serving this definition of the general population. The shelters set up in emergencies for this population are called general shelters and are designed

for those who need minimal or no assistance or accommodations² in order to maintain independence or achieve activities for daily living. It has been presumed that those who make up this population will be living independently and will be arriving from houses or apartments (Caring for Special Needs During Disasters, 2010; FEMA, 2010; Saez, 2011; USDHS, 2006).

The composition of the general population has changed. It now includes more persons whose functional needs require higher levels of assistance or accommodation than the general population, and increase in those who are living independently or with assistance in homes or apartments (WHO, 2012). As a result, the demographics of those that general shelters serve in emergencies have changed. In addition, evolutions in services and regulations regarding various categories of vulnerable populations have taken place. Because of this, general shelters are now mandated to serve these groups (Caring for Special Needs During Disasters, 2010; DeMarsh, 2012; FEMA, 2010; USDHS, 2006).

To serve vulnerable populations, specifically clients with functional needs, general shelters need to consider policies, in-shelter assistance or shelter design beyond the basic provision of shelter, food, water and sanitation (FEMA, 2010). These considerations are often in the areas of mobility, technology, and activities for daily living. They may also include communication, psychological assistance and medication (Mont, 2007; WHO 2012).

Historical Framework and Evolution of Disaster Response in the United States

Overview.

Current disaster response is interdisciplinary, emergency services and medical systems, and divided overall by “ability” and “disability”. The ability based emergency response system is structured for able-bodied persons, and meant for the “general population”. As an active system before, during and after disasters, it includes among its core features: emergency medical

² Above or beyond immediate shelter, sustenance and sanitation (FEMA, 2010).

transport, public safety services, and acute medical service (FEMA, 2008a, 2010; Mener, 2007; Robbins; 2005). It primarily focuses on acute measures for survival, instructed by the disaster at hand (Emergency Management Institute [EMI], 2012). The disability based emergency response system has been nested latently in disability systems for people with perceived disabilities. It is considered by the ability based system to be self-contained and separate, bridged by varying medical interfaces and repositories (DeMarsh, 2012; Saliba et al., 2004). A dormant disaster response system before and after emergencies, its primary focus is on chronic care in everyday life and activates emergency responsibilities only when required. It considers the ability based system to be responsible for most emergency and disaster response needs (Saliba et al., 2004).

Early versions of the components that make up today's systems were organized around wealth and poverty, burden level, and perceptions of "other" status, rather than medical needs or disability labels (Nielson, 2012; Watson, 2009; Welch, 1995). Though arrangement and interaction of these elements are vastly different than modern disaster response, certain underlying concepts remained through the evolution of initial practices to the current response system (Robbins, 2005). Thus, while the face of the current system has features distinct from its origin, the history of emergency response creates the foundation for modern practices and the structure upon which change will succeed or fail (Bisin & Verdier, 2005; Shah, 2006).

From European settlements to United States Civil War.

From the beginning of European settlements, to the United States Civil War, personal needs, including emergency, medical and disability care were predominantly an individual responsibility. Families and surrounding community were the primary source of support for vulnerable persons dependent on assistance (Nielson, 2012; Mener 2007; Robbins, 2005; Watson, 2009). Unlike today, the concept of disability was reserved for any state of being that

impacted day to day survival of individuals, families and communities (Nielson, 2012; Welch, 1995). In the latter half of the 1700s and early 1800s, a piecemeal system arose to deal with those who could not be handled by family or were considered burdens to society (Nielson, 2012; Watson, 2009; Welch, 1995). Divided first by economic status, and then by magnitude of impact of the underlying condition, solutions were influenced by old world practices of marginalization and disenfranchisement, and mitigated by level of wealth (Hornick, 2012; Nielson, 2009; Watson, 2009; Welch, 1995). Burdens on society due to poverty, age, acute and chronic illness, undesirable behaviors and ‘mental and physical defects’, were lumped together in poor houses, asylums, hospitals and institutions (American Philosophical Society Digital Library, n.d.a, n.d.b ;; Nielson, 2009; Hornick, 2012; Watson, 2009).

Those who remained were considered the “general population”, and it was this population around which non-asylum medical systems developed. Care focused on curing the offending ailment and returning the patient to society in an able bodied state. Hospitals were avoided, but when necessary, convalescence was long and isolated. Many hospitals, institutions and asylums during this time attempted to segregate their charges from society. This was not only to protect a vulnerable person from the stresses, strains and ills of civil life, but to protect society from physical, moral and behavioral “contagions”³ and sequelae (Hornick, 2012; Starr, 1982; Watson, 2009). Though the nature of certain emergencies placed demand on medical services, medical services had little to do with disaster response and planning (Robbins, 2005).

Disaster response.

Initially, organized, pre-planned disaster response was rare. In urban centers, private for-profit companies emerged to serve immediate threats to life. For poorer residents, or in more

³ The predominant school of thought at this time viewed behaviors and morals as transmissible (Hornick, 2012; Starr, 1982).

rural areas, a tradition of communal assistance existed. In disasters, an assortment of response and assistance methods developed, shaped by community values, resources, geography, and governmental structures (Mener, 2007; Robbins, 2005). Churches, businesses, and communities created their own emergency relief systems. An emergency or disaster event occurred; individuals and communities took action directly related to survival; persons, families and communities recovered or ceased to exist (Nielson, 2012; Mener, 2007; Starr, 1982).

As government structures arose, community response arrangements served as a model for government assistance during and after major events. Local response became supported by states, which in turn was supported by federal assistance (EMI, 2012; Mener, 2007). Throughout this period, systems evolved around reactive response, directed by the nature of emergencies, and focused on non-institutionalized or “general” populations (Mener, 2007).

Medical transport.

Medical transport developed in a manner similar to disaster response. It originated through individual responsibility: enlisting neighbors when necessary, and then coalescing into reciprocal community systems, such as response brigades consisting of community members or businesses resources. Occasionally, wars created rudimentary, temporary medical transport operations. Planning above and beyond awareness of the need for these normally dormant systems was non-existent. Medical transport during this period was rarely systemized and almost always reactive, mobilized when injury struck and demobilized when the passenger was deposited at the destination (Robbins, 2005).

Catalysts for change: 1860-1930.*Antisepsis and industrialization.*

During the late 1800s to early 1900s, multiple influences changed the face of medicine, creating an identity crisis which was resolved through a period of socio-medical struggle. As hospital hygiene and medical care practices improved, hospital profits could increase by decreasing the patients' length of stay and increasing the number of admissions. Some hospitals sought the prestige and financial reward of only providing services to the acutely ill. When illness or injury struck, patients were treated on presentation to medical facilities, where they either died, or recovered and were discharged. Others hospitals, left to care for the chronically debilitated, and/or believing in the doctrine of moral illness that dominated pre-sepsis care, promoted the asylum approach and sought to segregate their charges (Starr, 1982).

In the early 1900s, eugenics came into favor as a method to treat or prevent socially undesirable traits, illnesses and disability (Fernald, Blackstone, Flood, Bridges, & Scribner, 1911; Jordan, 1906). Though advocates for the poor, mentally or chronically ill, and disabled, worked hard to improve treatment and care, legislation was passed to institutionalize and sterilize those with mental, physical and moral 'defects' (Fernald et al., 1911; National Consortium on Leadership and Disability for Youth [NCLD-Youth], 2007). Such laws became officially sanctioned by the Supreme Court in 1927 (NCLD-Youth, 2007). Specialized public institutions increased in number to care for the vulnerable, informed by professional and social assessments of disability that legitimized the doctrine of social separation (Brown, 2009; Galton, 1909; Noll, 1995; Roosevelt, 1913; Watson, 2009). Conversely the role of the hospital began to shed this association, transitioning to a desirable medical treatment facility (Starr, 1982; Watson, 2009).

Eventually the two models of hospital medical care and institutionalized chronic care diverged, with hospitals predominantly providing acute care to the general population, and asylums providing long-term care for ‘special populations’ (Starr, 1982). At this time, budding disaster response systems had not yet absorbed acute care medical systems (Robbins, 2005; Shah, 2006). However, the divergence in hospital systems influenced the development of disaster response by distilling the physically or mentally disabled out of the general population (Hornick, 2012; Nielson, 2009).

American Civil War:1860-1865.

The North American military system for dealing with illness, disability, and emergency response began in the 1600s and developed parallel, often setting precedents, to civil society (Robbins, 2005; Welch, 1995). The Civil War influenced mental health and surgical care tremendously, spurring advances in field medicine, public funding, institutions for nursing care, and the proliferation of hospitals and mental health treatment from the 1860s to the 1880s (Starr, 1982). It gave rise to emergency transport systems to take injured soldiers to field hospitals. Once the war ended, these practices were integrated permanently into hospitals (Robbins, 2005). As the automobile became more common, hospitals added “accident rooms”, bridging emergency medical transport with the hospital system (John Hopkins University, 2013). The spontaneous and limited nature of emergency medical transport was generally associated with the general population (Robbins, 2005).

The Great Depression and WW II.

Until general population medical care partitioned from vulnerable population care, private nursing homes were uncommon for all but the wealthy (Starr, 1982). Legislation championed by Franklin Delano Roosevelt in 1935 included financial support for the elderly and

persons with permanent disabilities (NCLD-Youth, 2007). This funding could not be collected by those in poorhouses, where the majority of the uncared for geriatric population resided. Though these payments were intended to incentivize the return of poor-house dependents to their homes, more elderly and disabled persons were sent by families to private group homes to reduce familial burden while retaining eligibility to collect payments. Soon after, medical advances from the World Wars allowed more disabled veterans to survive, increasing the number of people with disabilities. As a result, Social Security payments were approved for public care facilities, leading to the regulation of nursing homes (Watson, 2009). Before, wealth and poverty was the primary divide under which disability, medical response, and disaster response were split (Nielson, 2012). Now, poverty was peeled away from these populations in medical service models, while structural segregation of “Other” from mainstream populations was reinforced (Watson, 2009).

This finalized both the movement of disabled, elderly or mentally ill people into institutionalized settings, and the separation of acute and chronic care facilities. Over the next thirty years, the general population went to hospitals and physicians offices (Starr, 1982; Watson, 2009). Emergency shelters were established for those displaced from their homes. EMS systems were activated for acute crises affecting the general population (Robbins, 2005; Shah, 2006). The elderly or physically and mentally disabled went to institutions. They were served on-site by facility staff for the majority of their medical needs (Nielson, 2009; Watson, 2009). The vulnerable sheltered in place at their respective facilities, only encountering emergency responders during a disaster when their institution could not handle their needs (Caring for Special Needs During Disasters, 2010; Nielson, 2009).

Solidification of Modern Mainstream Disaster Response Components

Each of these fields--disaster response, emergency transport, and medical services--experienced significant change in the decades of 1950 and 1960. Through funding, legislation and the increased need for trauma care due to automobiles, emergency response services, emergency medical services, and emergency hospital medicine became tied together by the themes of acute traumatic injury and immediate threat to life (Mener, 2007; Robbins, 2005).

During the 1970s, emergency medical services (EMS), including transport and hospital structures, received increased funding to develop these systems (EMI, 2012; Mener, 2007; Robbins, 2005). Firefighters, police and emergency medical technicians became the default profession first called to the scene of mass casualties and disasters (Mener 2007; Robbins, 2005). The Federal Emergency Management Agency (FEMA) was created in 1979 to provide large scale supportive disaster response and relief (EMI, 2012). These systems developed together, serving the 'general' population rather than 'special' populations (Robbins, 2005).

Increasing technology and medicalization reinvented an implied overlap between institutionalized care and hospitals, and emergency response services and hospitals (Robbins, 2005; Shah, 2006). Hospitals, residential care facilities and nursing homes became natural partners to serve as drop-off points for persons with disabilities, functional needs, or chronic medical requirements during community emergencies and disasters (Saliba et al., 2004).

It is this foundation on which the current response system is built on, and reflects the varying backgrounds tied together by common threads of the professions that staff general emergency response shelters (Robbins, 2005; Shah, 2006; Starr, 1982). Historically, their training, structure, and culture have not included vulnerable populations, whose constituents have experienced a different trajectory in health care and emergency response.

Strain on Established Disaster Response Systems

Structural weaknesses in disaster response system.

Through time and routine, disaster response systems were built into reliable, upgradeable practices, procedures, and expectations (Robbins, 2005; Shah, 2006). Their stability came into question when the combination of infrastructure deterioration, climate change, and population shifts disrupted key system components (Hultman, 2006; USDHS, 2006). Some situations require expertise beyond the purview of traditional first responders. Movement into disaster prone areas puts more people at risk (Mener, 2007). Conflicting expectations regarding who is responsible for vulnerable populations can exacerbate deteriorations in mass casualty care (FEMA, 2010; Saliba et al. , 2004).

As an example, due to the interfacing functions that hospitals and nursing homes serve, emergency responders expect hospitals and chronic care facilities to both handle their own populations during mass casualty events, and to receive persons from the community that emergency responders deem incompatible for the general shelter system. Conversely, hospitals and chronic care facilities, expecting disaster response systems to be ultimately responsible for all populations, entered the first half of the 21st century with weak disaster response planning. As a result, overflow of displaced persons have been increasingly routed to emergency community shelters, which in turn have been ill prepared for the influx (FEMA, 2010; Saliba et al., 2004).

Re-integration of vulnerable populations - 1980-present.

The proportion of people with functional needs in the general population has been steadily increasing since the 1980s due to three major influences (FEMA, 2010; Gapminder, 2013). Institutional facilities received massive funding cuts due to budget control measures and high costs (Unite for Sight, 2012). Technology and aging now significantly blurred the line

between overwhelming disability and manageable conditions (Mont, 2007; Shah, 2006; WHO, 2002, 2012). Advocates had been pressing for more independence (Caring for Special Needs During Disasters, 2010; Oliver, 1990; Priestly, 1997).

The successful passage of the ADA in 1990 (ADA, 2008) mandated equal access to services for disabled people, accelerating the re-integration of persons with disabilities back into the general population (U.S. Commission on Civil Rights, 2000). It protects not only those persons with medical manifestation of severe disabilities, but those who require functional needs assistance in activities for daily living. Later, in 2008, it was officially extended to protect persons who have a medical condition, but no functional needs assistance requirements, as long as accommodations are necessary to maintain that status (ADA, 2008).

Identifying Problems; Unsuccessful Change

1980 to 2000.

During the late 1980s, and the majority of the 1990s, emergency response service and hospital system professionals began to publish papers declaring the insufficiency of the emergency response system to adequately cope with the influx of persons with increased functional needs. Despite these early alarms, very little practical adjustment occurred to increase access and service for these persons with functional needs (Alexander, 1997; Osterman & Kottkamp, 1993). In the late 90s and early 2000s, recognition strengthened that fundamental aspects of disaster response systems were becoming overwhelmed and undermined by changes in social routines and climate change. Still, despite continued identification of gaps in response care networks, little change occurred in disaster response systems regarding persons requiring functional needs assistance (Caring for Special Needs During Disasters, 2010; Hultman, 2006; Osterman & Kottkamp, 1993; USDHS, 2006).

Disaster response in US from September 11, 2001 to Hurricane Katrina in 2005.

The September 11, 2001 World Trade Center disaster highlighted deficiencies in the federal response system regarding persons with disabilities, prompting an Executive Order on the topic. Yet, enforcement actions regarding emergency planning violations of the ADA were rare. It wasn't until Hurricane Katrina that jurisdictions were held accountable (Caring for Special Needs During Disasters, 2010; DeMarsh, 2012; Saez, 2011; USDHS, 2006).

In 2005, congressional hearings were held regarding the nation-wide failure of communities to provide appropriate, effective, non-segregated disaster response planning and services to persons with disabilities and functional needs assistance. The hearings were prompted by events during Hurricane Katrina, including the death of a paraplegic woman. Benilda Caixeta called both disability and emergency response systems for three days, including 911 and para-transit transportation. Marcie Roth, Executive Director of the National Spinal Cord Injury Association at the time, testified that she stayed on the phone with Benilda on the fourth day, until her home flooded and Benilda drowned. The hearings persuaded the Department of Justice to develop new guidelines on emergency response planning and disabilities. As a direct result of Ms. Roth's testimony, in the following five years, disability advocates were included in the development of new guidelines (Caring for Special Needs During Disasters, 2010). Subsequently, lawsuits were filed and won against jurisdictions whose emergency plans or implementation did not comply with ADA regulations (Communities Actively Living Independently and Free, et al. vs. City of Los Angeles and County of Los Angeles, 2010; DeMarsh, 2012; Saez, 2011).

The current state of integration of vulnerable populations in disaster response.

Despite guidance from FEMA and the Department of Justice; the proliferation and awareness of successful lawsuits by emergency planners and responders; and the continuing dialogue and active endeavors to integrate functional needs into emergency planning and response, progress has been difficult (Caring for Special Needs During Disasters, 2010; DeMarsh, 2012; Osterman & Kottkamp, 1993; Peterson, 2010; Saez, 2011). A class-action lawsuit was filed in 2009 against the city of Los Angeles, CA with the intent to include persons with disabilities in response plans. The city resisted, arguing both that: 1) planning to respond to accommodation requests as the disaster unfolds was sufficient to meet legal requirements, and that 2) it was not responsible for planning for persons with functional needs, since other organizations were responsible for functional needs populations. The court ruled against the city in 2011, rejecting segregation policies in disaster planning and response (Communities Actively Living Independently and Free et al. vs. City of Los Angeles and County of Los Angeles, 2010, 2011; DeMarsh, 2012; Saez, 2011). Lawsuits were filed in late 2011 and 2012 against New York City for failing to adequately address persons with functional needs in their emergency planning and implementation during the hurricanes Irene (2011) and Sandy (2012) disasters (Saez, 2011; Sherry & Harkins, 2011).

Ms. Roth, now senior advisor of Disability Issues for FEMA, suggested, in agreement with disability advocates, that the perception of vulnerable populations as ‘Other’ or ‘Special’, combined with the separate tract in which persons with disabilities have been historically handled, contributes to the difficulty localities and states have with conceptualizing and implementing effective, ADA compliant updates to their emergency response networks. Shifting the language from disability to functional needs is believed to be more accurate, serve a larger

proportion of the population, and change perceptions that inhibit progress in emergency planning (Caring for Special Needs During Disasters, 2010; Oliver, 1990; Priestly, 1997). As such, though the ADA extends protections to persons with disabilities, FEMA guidance and planning reference functional needs clients as the primary target to be federally compliant (ADA, 2008; Caring for Special Needs During Disasters, 2010; EMI, 2012; FEMA, 2010).

Current Influences on Modern Disaster Responders

Professions.

Though emergency responders and planners have been shaped by the historical practices and policies of their profession, they are also shaped by response level, professional field, employing agency, and geography. Those who run and plan emergency shelters possess diverse backgrounds (EMI, 2012; Mener, 2007; Robbins, 2005). Emergency planning and response used to be the purview of emergency medical and fire services, housed in whichever department a jurisdiction seemed appropriate. Depending on jurisdiction, disaster sheltering fell to community organizations, non-profits, or differing government entities (Mener, 2007; Robbins, 2005). Today, that has resulted in a mix of professionals which include (EMI, 2012; FEMA, 2008a, 2008b):

1. the emergency medical and fire services field,
2. hospital or medical related professions,
3. police or public safety positions,
4. non-profit support agencies
5. the field of public health,
6. public policy,
7. planning

As a result, experience, training, and local focus tends to span these professions (EMI, 2012).

Emergency medical and fire services and disaster response have traditionally been a mix of volunteers and employees (Robbins, 2005). This is significantly less true in other professions that tend to be engaged in emergency planning and response (Starr, 1982). Emergency medical and fire service has long been an experience or apprenticeship based service. It generally does not require a college degree. As such, continuous training, and field exercises have been an integrated part of this field (Cwiak, Cline, & Karlgaard, n.d.). These first responders are not typically trained in emergency shelter duties unless those duties are relevant to their jobs, volunteer activities, or cross training requirements. Continuing education requirements include a small portion of vulnerable population preparation as related to their everyday duties, such as geriatrics, pediatrics, and mental health. Emergency medical and fire service responders are generally not required to be trained in disability issues or functional needs assistance (Institute of Medicine [IOM], 2007). First responders may be separated into distinct and separate Fire and EMS services, or may be cross-trained under one organization. Though EMS and Fire are almost always regulated under separate boards and regulations, there is a movement in some states to consolidate the governing departments (Robbins, 2005).

Medical and allied professions often have continuing education requirements which include up-to-date training in their fields. These trainings may or may not include shelter administration, depending on whether they will be expected to fulfill such duties. Hospital employees may or may not require training related to emergency response. Training consistency and frequency may vary. Hospital employees may be trained on functional needs assistance, medical training, or logistics and bureaucratic administration or none of these trainings, depending on their position. They may or may not be required to be licensed in a medical or

health related field. Physicians may overlap in emergency management or public health. Medical personnel might volunteer across fields. If they do not, disaster response and functional needs is unlikely to be among their continuing education requirements (IOM, 2007).

Public health is an extremely diverse field. Though it has a long history in civil society, it has taken a back seat as a named profession in emergency response. As a result, emergency response and shelter positions that would fall under the umbrella of public health have often been staffed by those who have degrees or professions in other categories. County public health departments are no exception, with nurses, physicians, emergency medical technicians, and business professionals providing a historical backbone to public health departments (IOM, 2007; Shah, 2006; Winslow, 1920). The complex and interdisciplinary nature of public health had been identified by professionals for over a century (Winslow, 1920).

According to Dr. Winslow, even in his era, certain aspects of public health were relegated to police, firefighters, administrators and public policy makers, rather than under the auspices of the public health profession (Winslow, 1920). Over time, due to the overlapping nature of social, sanitation, and medical determinants of health (IOM, 2007; Marmot & Wilkinson, 2009), these positions have slowly migrated under the umbrella of public health, rather than the aspects of public health being siloed under these positions (IOM, 2007; Shah, 2006). As such the definitions of public health have become even broader over time, to contain disaster response. Still the majority of public health workers focus on skills and tasks unrelated to disasters, emergency shelters, and functional needs. Similar to public health, public policy and administration are highly interdisciplinary. Both may have degrees or positions that are primarily identified in another category, or may be specific to their field. Those who work in shelters tend to be the former rather than the latter (IOM, 2007).

Level of implementation.

The entirety of professions can operate at a variety of levels: from government to non-profit; local to national; frontline to administrative (EMI, 2012; Robbins, 2005). Those who design policies for shelters can operate at all levels, but usually perform in administrative positions (IOM, 2007). Those who implement policies are more likely to be closer to the local level on the frontline, but can be both government or non-profit (Mener, 2007). Home-rule is the governing philosophy that gives local jurisdiction legal control over that which they experience. State decisions are semi-subordinate to local control, and federal preferences are semi-subordinate to state control (National Academies, 2012). This is often in full force during natural disasters (EMI, 2012). Amplified by home rule, the nature of disasters usually require that the majority of persons implementing policy in general emergency shelters to be local personnel (Hultman, 2006; Mener, 2007).

Depending on the region, disaster responders may be employed by a private for-profit company, a non-profit agency, a hospital, a community corporation or a local government entity. Workers may perform duties in rural or urban settings, each of which have different challenges. Service areas can range from villages and townships to cities, regions, or states (Mener, 2007, Robbins, 2005).

Nationally, registries have been created as a pre-planning effort to organize and bolster emergency response. Volunteer corps, such as the Medical Reserve Corps (MRC) and the Citizen Corp (CC), have been set up specifically to address the need to recruit and coordinate volunteer medical personnel and citizen responders (FEMA, 2011, 2012).

Cultural transmission is “The transmission of preferences, beliefs, and norms of behavior which is the result of social interactions across and within generations...” (Bisin & Verdier,

2005, p. 2). Despite professional breadth, depth, and diversity, all of these fields are directly influenced by the historical separation of disability and emergency response systems. As such, their perceptual framework based on their experience, training and professional influences have made it difficult to integrate vulnerable populations, especially those with functional needs (DeMarsh, 2012; FEMA, 2010; Mont, 2007; Osterman & Kottkamp, 1993; Saez, 2011; USDHS, 2006; WHO, 2002, 2012).

Methods

Data Source

A survey was created by the Greene County Combined Health District (GCCHD) regarding functional needs gaps in general shelters during emergencies. Functional needs were defined as requirements for carrying out activities for daily living and maintaining independence. They range from broad categories like food and shelter to individual-specific needs such as medical devices and medication (FEMA, 2010; Mont, 2007; WHO, 2012). The survey gathered information on experience, training, and professional profiles of volunteers who will deal with functional needs clients in general shelters during an emergency. The data collected was part of a larger randomized study designed to assess functional needs flow processes in those general shelters.

GCCHD distributed the survey to 165 local Medical Reserve Corps (MRC) volunteers and 72 public health workers. A dedicated email list maintained by the MRC coordinator for GCCHD for each of these populations was used to send a web-based link to the survey. Of 267 total persons solicited, 45 surveys were returned (response rate 16.5%). Respondents were assured anonymity, and the data collection protocol was designed accordingly. The data

collection period began June 8, 2012 and the last survey was collected on June 20, 2012. One reminder was sent via email during this 12 day period.

Inclusion criteria.

The target population was persons in any field related to public health, emergency response, or who otherwise might be involved in chronic care triage in general shelters. The evaluation was an observational cross-sectional survey methodology. The entire county-wide cohort of public health workers and Medical Reserve Corps volunteers for Greene County were offered the evaluation via established lists (open ended sampling of both subgroups was used with the upper limit bounded by total cohort size; all potential participants were notified that participation was voluntary).

Exclusion criteria.

No one who responded to the survey link was excluded, even if they indicated no experience or no connection with emergency response. Survey link recipients were able to share the survey link.

Ethical clearance.

Ethical clearance for the primary data source was completed under GCCHD. Ethical clearance for the secondary data analysis in this report was obtained through IRB review from Wright State University (Appendix A).

Survey instrument.

The survey instrument consisted of 34 questions, which took approximately 40 minutes to complete. The survey respondents played the role of shelter volunteers triaging presenting clients to appropriate functional needs endpoints. These endpoints represented processes to connect functional needs clients with appropriate service delivery.

Secondary data.

Secondary analysis was performed on cross sectional (baseline) data collected in the original survey. These questions focused on experience, training, and professional profile of volunteers; scenario data were analyzed separately by the public health agency (Brannen, Fannin, & McDonnell, 2013). The initial five questions assessed experience by asking about professional connections and training experience (Table 1). All but the first question allowed responders to select more than one answer. These questions required answers in order to proceed to the next question.

Table 1

Questions Regarding Professional and Training Experience

Question	Response Choices
1 Are you a current registered MRC ¹ or CC ¹ volunteer? Select only one.	Yes: MRC, CC, Both; No: registered in past but not currently, never registered; Maybe/Unknown
2 Do you work in any field that is related to functional needs, health, or emergency response? Check all that apply.	None; Physician, Nursing, Nursing Assistance, Emergency Response, Public Health, Health Aide, Disability Support, Geriatrics, Mental Health, Special Needs, Community Advocate, Other
3 Have you received any of the following disaster response trainings in the past five years? Check all that apply.	None, IS ² 100, IS 200, IS 700 (NIMS), Any other disaster response or medical reserve core courses (specify)
4 Have you received any of the following medical response trainings in the past five years? Check all that apply.	None, CPR, First Aid, AED use, HIPAA, Bloodborne Pathogen, Transferring patients, Psychological First Aid,
5 Have you received any of the following functional needs trainings in the past five years? Check all that apply.	None, Transferring Patients with Functional Needs, Toileting, Colostomy Care, Wound Care, Diabetic Care, Intramuscular and Subcutaneous Injections, Medication Handling and Administration, Medical Devices, Assisting Patients with Cognitive Disabilities

1. MRC = Medical Reserve Corps. CC = Citizen Corps. (FEMA, 2011, 2012)

2. IS courses are incident command system (ICS) courses designed to familiarized emergency responders with the framework and response expectations of the national incident management systems (NIMS). These courses are provided through an independent study system (IS) (EMI, 2013)

The next two questions were open ended soliciting feedback from survey respondents regarding methods to improve functional needs training and shelters. The respondents then

complete twenty triage scenarios and then answered additional questions. The final two questions repeated solicitation of feedback regarding methods to improve functional needs training and shelters. The results of these twenty-four questions are not analyzed in this study.

After triaging simulated patients, experience and professional participation of survey respondents was again assessed, this time in the form of actual event participation, length of time in field and professional licensure (Table 2). Question 29 asked volunteers to enter the date of the first time they ever volunteered to assist during a disaster or public health emergency. This date was used to calculate length of experience. Due to the wording of question 31, one unit was added to responses to calculate total emergency event assists by respondents.

Data Analysis

Statistical analysis was conducted using IBM Statistical Package for Social Sciences (SPSS) for Windows, version 20 (IBM, 2011). Statistical analysis consisted of descriptive statistics and a simple logistic regression. Due to the small sample size, all variables were considered to be non-normally distributed. All variables except for question 29 and 31 were categorical and calculated as frequencies and percentages. Variables calculated from Questions 29 (length of time since first event response) and 31 (number of events) were continuous. Means were calculated for these questions. The logistic regression model contained predictor variables of the computed sums of the amounts of professional experience, and disaster, medical, and functional needs trainings. The model was used to determine the odds of having responded to any disaster or major public health emergency, in order to observe the effects of training on live disaster response experience.

Table 2

Questions Regarding On Scene Experience and Professional Licensure

Question	Response Choices	Different Variable?
28 Have you ever volunteered for, or helped during, a disaster or public health event?	Yes/No	No
29 Please enter the date you first volunteered to help during a disaster or public health event. Enter 02/02/2222 if you have never assisted during a disaster or public health event	Date	Subtract date from 2012 for length of experience. 02/02/222 = 0 years
30 The first time you volunteered to help, were you a:	Volunteer pre-registered with either or both MRC or CC Volunteer registered during the event (JIT) Unregistered Volunteer Have never helped, nor volunteered to help during a public health event or emergency Volunteer pre-registered or registered during the event with another agency (please specify) (Write-in Field)	No
31 Since your first time, how many times have you volunteered to help during a disaster or public health event in a registered or Just In Time capacity?	Numerical write-in field	Add 1 to each answer for to number of event assists.
32 Do you have a professional state license? This include any profession that must be certified to practice and is not limited to physicians?	Yes, No, Decline to Answer; If yes, in what specialty? (Write-in field)	No

Note. Just-In-Time (JIT) volunteers arrive at register as needed during an emergency and are not on a pre-planned roster.

Results

GCCHD distributed the survey to 165 local MRC volunteers and 72 public health workers. Of 267 total persons solicited, 45 surveys were returned (response rate 16.5%). Figure 4 shows the completion levels for each question in the survey.

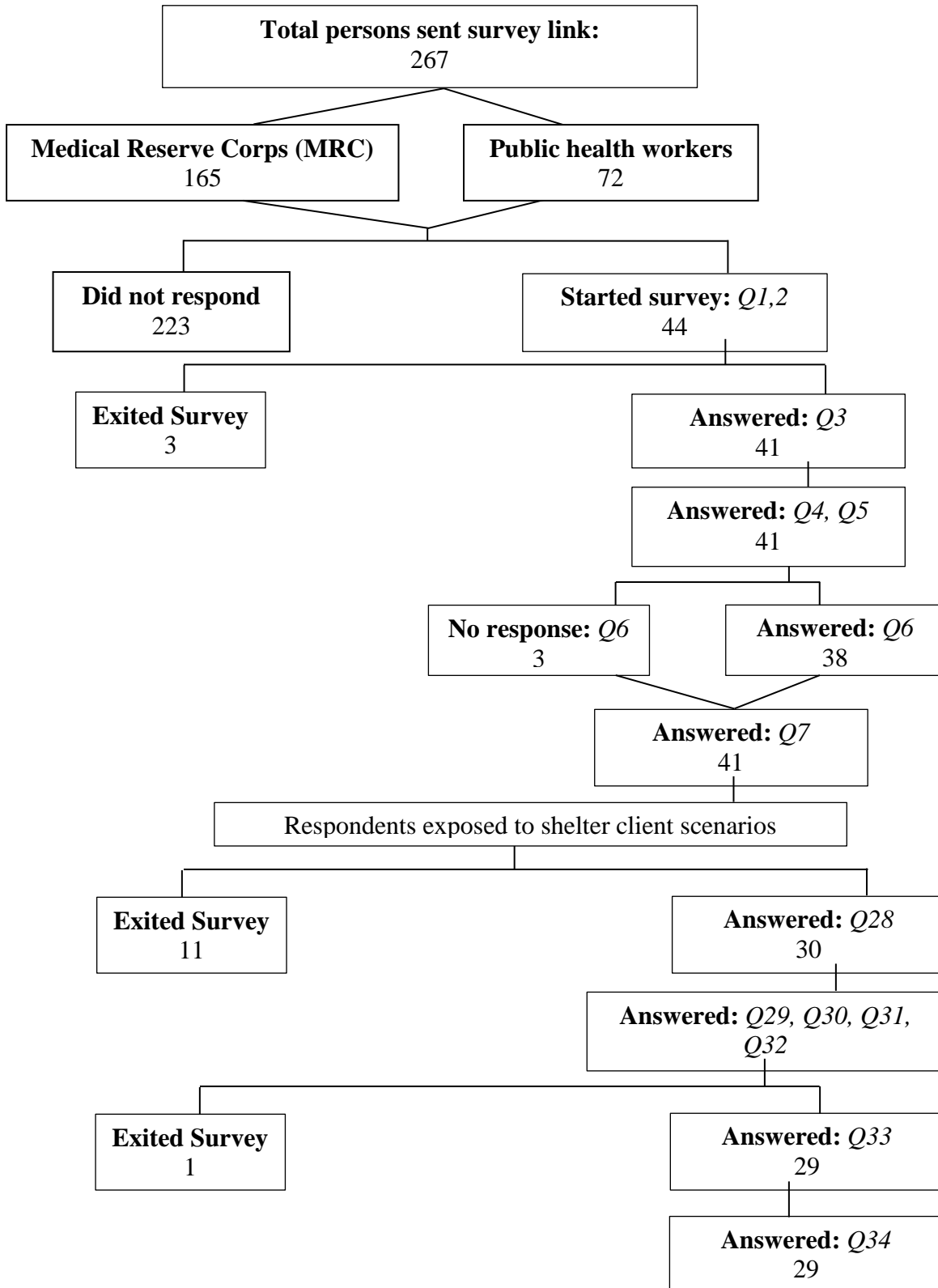


Figure 4. Flow of response count through survey.

Numbers of currently registered MRC volunteers were greater than all other volunteer types combined. Twenty-five percent of survey respondents had never registered with MRC (Table 3). Over half of survey respondents were public health workers and slightly over one quarter were nurses. Emergency response workers, those who chose other profession, and those who had no related professional field, constituted the rest (Table 4).

Table 3

Respondent Volunteer Type

Currently registered: Medical Reserve Corps (MRC)	26	59.1%
Currently registered: Citizen Corps. (CC)	0	0.0%
Currently registered: Both MRC and CC	1	2.3%
Previously (not currently) registered MRC and/or CC	3	6.8%
Never registered for MRC or CC	11	25.0%
Maybe or Unknown	3	6.8%
Total	44	100%

Table 4

Responder by Professional Fields, Q2

Type	Frequency	Percent
None	5	11.4%
Physician	1	2.3%
Nursing	12	27.3%
Nursing Assistance	1	2.3%
Emergency Response	5	11.4%
Public Health	23	52.3%
Health Aide	1	2.3%
Disability Support	2	4.5%
Geriatrics	3	6.8%
Mental Health	1	2.3%
Special Needs	2	4.5%
Community Advocate	1	2.3%
Other	4	9.1%

Note. Respondents could select more than one answer. Percentages will add up to more than 100.

FEMA offers several courses to prepare first responders for emergencies and familiarize them with the National Response Framework (EMI, 2013). Approximately 80% of survey

respondents had some type of disaster response training, while over half had basic FEMA courses. Of those with training, 84.4% had more than one disaster response training (Figure 5).

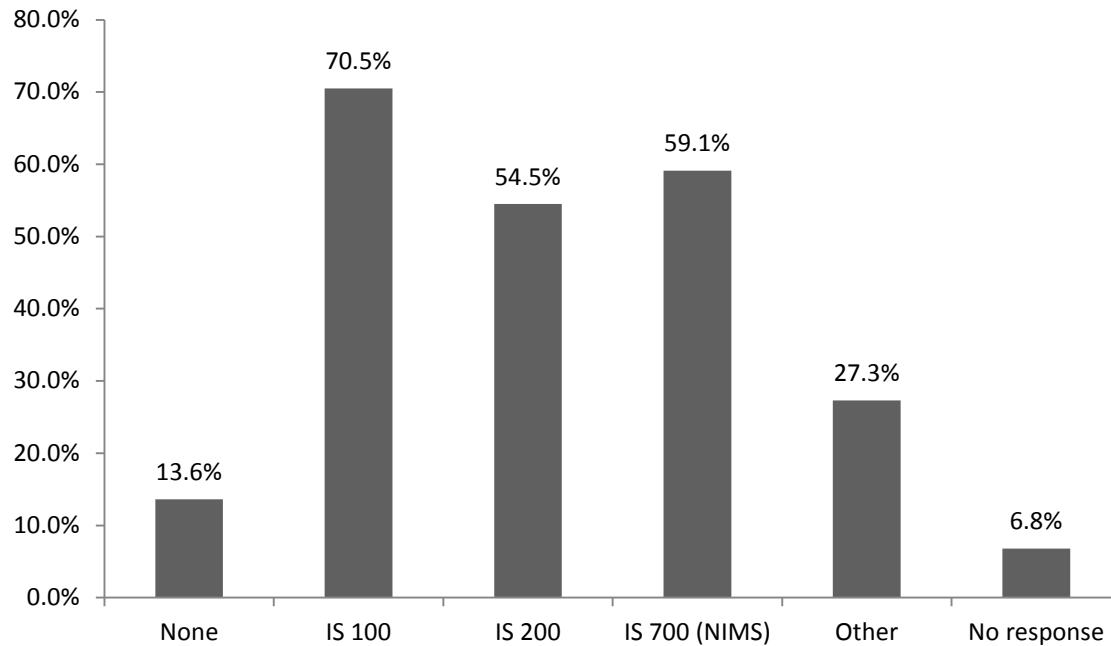


Figure 5. Disaster response training within the past 5 years, Q3.

Note. Respondents could select more than one answer. Percentages will add up to more than 100. Percentages are based on a denominator of 44. Overall, 79.5% had any disaster response training, 13.6% had no disaster response training, and 6.8% did not respond. Of those who had any training, 84.4% had more than one.

Nearly 70% of survey respondents had some type of medical response training.

Bloodborne pathogens, CPR, and AED use were the most prevalent type of medical response trainings. Indirect medical response skills, such as HIPAA and psychological first aid training were each marked by approximately 30% of respondents, while 20% had training in transferring patients. Of those with training, 90% had more than one medical response training (Table 5).

Table 5

Medical Response Training in Past 5 years; Q4

Types	Frequency	Percent
None	11	25.0%
CPR	23	52.3%
First Aid	11	25.0%
AED	19	43.2%
HIPAA	16	36.4%
Bloodborne Pathogen	24	54.6%
Transferring Patients	9	20.5%
Psychological First Aid	13	29.6%
Other	3	6.8%

Note. Respondents could select more than one answer. Percentages will add up to more than 100. Percentages are based on a denominator of 44. Overall, 68.2% had any medical training, 25% had no medical training and 6.8% did not respond. Of those who had any training, 90.0% had more than one.

Only 43% of respondents indicated having any functional needs training. With the exception of wound care (25%), diabetic care (25%) and colostomy care (14%), approximately 20% ($\pm 3\%$) of respondents had any given training listed, and 14% indicated training in an unlisted category of functional needs care. Of those with training, 63.2% had more than one functional needs training (Table 6).

Table 6

Descriptive Statistics: Functional Needs Training in Past 5 Years, Q5

Types	Frequency	Percent
Transferring Patients with Functional Needs	10	22.7%
Toileting	9	20.5%
Colostomy Care	6	13.6%
Wound Care	11	25.0%
Diabetic Care	11	25.0%
IM and SQ Injections	8	18.2%
Medication Handling and Administration	9	20.5%
Medical Devices	8	18.2%
Cognitive Disabilities	9	20.5%
Other	6	13.6%

Note. Respondents could select more than one answer. Percentages will add up to more than 100. Percentages are based on a denominator of 44. Overall, 43.2% had any functional needs training, 50% had no functional needs training and 6.8% did not respond. Of those who had any training, 63.2% had more than one.

Almost 70% of survey respondents answered the question if they had ever assisted with at least one major disaster or public health emergency. Of those respondents approximately 37% had never assisted on a major event (Figure 6).

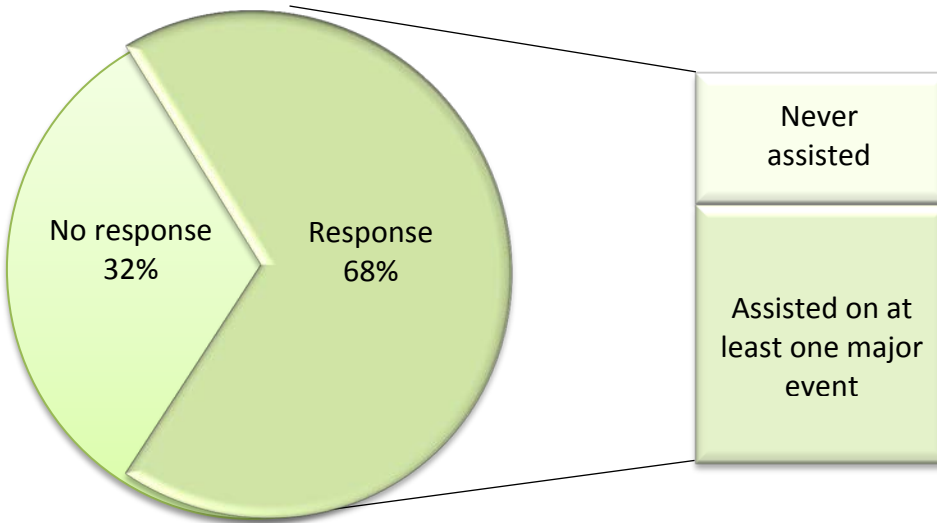


Figure 6. Proportion of response types for event assists, Q28/29.

Experience was measured by comparing the number of major emergency assists by the number of years in the field since the first assistance in a disaster or public health emergency. Of the 68% which had assisted with at least one major event, responders formed three experience cohorts: 1-3 years, 12 years, and 18-38 years of experience. There was a difference of ten or more years of experience between each cohort mean. The least experienced cohort had the least number of mean major event experience, while the more experienced cohorts had a higher, relatively similar mean (Table 7). The majority who answered this question had been assisting for three years or less. Responders whose first event-assist was on, or after 2001 had a wider range regarding number of event assists than those who first served pre-2001 (Figure 7).

Table 7

Experience: Number of Major Events and Years Since First Assist, Q29/31

	Experience Groups	Mean Years Experience	Mean Number of Major Events
1	≤ 5 years [10; 1-3]	2.2	2.5
2	6-15 years [5; 12-12]	12	6.6
3	15-40 years [4; 18-38]	29	6.5
Total	[19; 1-38]	10.4	4.7

Note. Brackets show number of responders and year range per group.

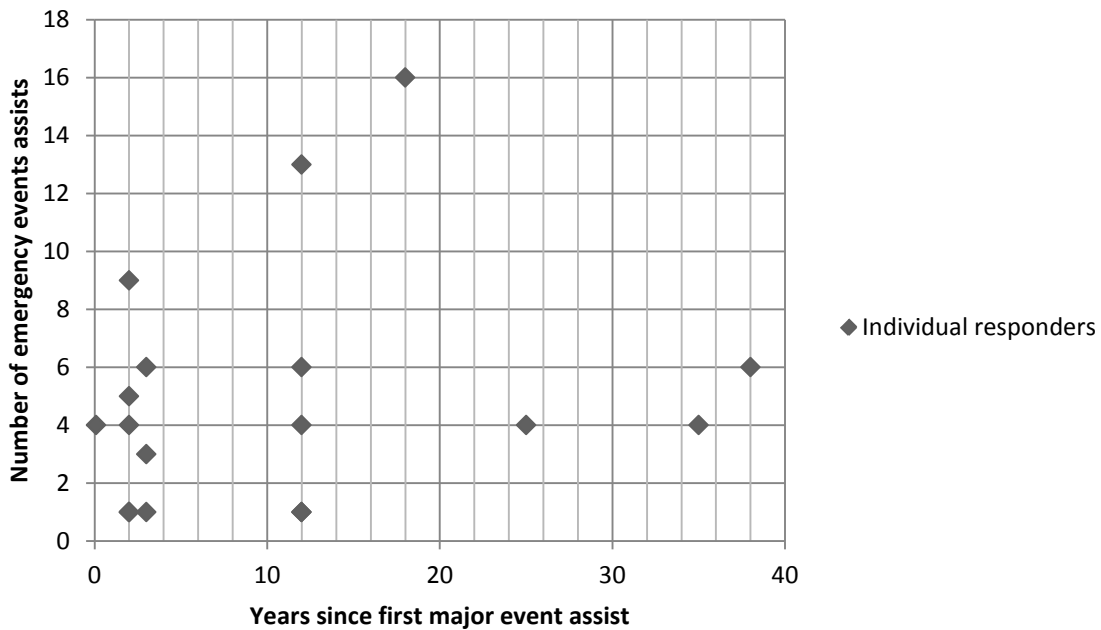


Figure 7. Cumulative number of major events by years since first event assist, Q29/31.

Note. Responders with the same number of years and event assists overlap and appear as one responder.

Emergency responders can assist on a major event in volunteer capacity or in a paid employee capacity. Volunteers may register prior to the event with an established organization, or volunteer without being requested at the site when events take place (FEMA, 2012). Only

60% of survey takers responded to the question on registration status. Of those, 40% never registered in any capacity to help on an event. No volunteers used ‘Just-In-Time’ status (Table 8).

Table 8

Registration Status on First Event Assist, Q30

Registration Status	Frequency	Percent
Pre-registered with MRC and/or CC	5	11.4%
Pre-registered with other agency	7	15.9%
Unregistered	6	13.6%
Never registered to help	12	27.3%
Registered as Just-In-Time Volunteer	0	0.0%
No Response	14	31.8%
Total	44	100.0%

Note: Only 60% of survey participants responded to this question. Of those, 40% have never registered in any capacity on an event, and no volunteers used Just-In-Time status.

Over 50% of all respondents, or 77% of those who responded to the previous question, had a professional license. No respondent selected ‘Decline to answer’. Sixty-six percent identified their license type. Almost all related to medical or social service categories (Figure 8).

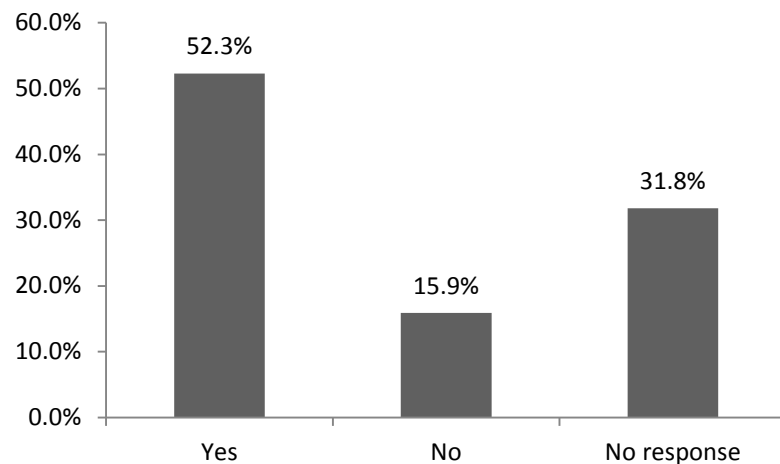


Figure 8. Professional state license status, Q32.

The odds of having responded to a disaster was 1.017 (.78 to 1.311) for the amount of professional experience, 1.428 (1.204 to 1.694) for disaster trainings, .796 (.721 to .878) for medical training, and .922 (.863 to .985) for functional needs training (Table 9).

Table 9

Logistic Regression of Calculated Sums of Experience (fields worked), Disaster Training, Medical Training, and Functional Needs Training

Predictor	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.	
							Lower	Upper
Fields worked	.017	.130	.017	1	.895	1.017	.789	1.311
Disaster trainings	.356	.087	16.740	1	.000	1.428	1.204	1.694
Medical trainings	-.228	.050	20.726	1	.000	.796	.721	.878
Functional needs training	-.081	.034	5.721	1	.017	.922	.863	.985
Constant	.782	.331	5.560	1	.018	2.185		

Note: The Cox and Nagelkerke R-squared was .146 to .199.

Discussion

The primary purpose of this study was to assess the professional profile, experience and training of emergency responders that are likely to staff general disaster shelters that include functional needs clients. A survey was sent through two mailing lists to MRC volunteers (62%) and public health workers (38%). Though it was not possible to track the response rate for each list, the twice as many survey respondents identified as MRC volunteers (61.4%) than those who had never participated in MRC (31.8%). Conversely, the top three professional fields respondents identified were public health workers (52.3%), nurses (27.3%), and emergency response (11.4%). This composition of disaster responders is consistent with literature that indicates an overlap in medical, EMS and public health identities, and blending of professional and volunteer participation. The number of respondents (11.4%) that identified no professional field may be indicative of administrative workers.

Very few respondents identified themselves as performing in a field specifically related to functional needs. This did not include nursing fields and physicians, which fall into general medical categories and may or may not consider themselves connected or trained in functional needs. Geriatrics, mental health, special needs and disability support are considered separate categories from the definition of functional needs established in this research design, but frequently contain populations that both overlap with functional needs and are poorly served in disaster shelters (Mont, 2007). Given that MRC specifically recruits medical professionals, that public health professions often work with vulnerable populations, and that both of these professions have often served as an interface between general and functional needs populations (FEMA, 2011, 2012) the level of professional identification with functional needs areas and trainings is lower than expected. However, the scarcity of professional identification with functional needs areas among disaster responders is consistent with literature regarding the segregation of disability and functional needs professional identities from those involved in disaster response. It may be the case that segregation of functional needs clients from the general population is more deeply internalized into disaster response structures than the use of health professions as a bridge between the two.

Though survey design, combined with survey taker choice of response, does not provide exact participation counts, it is clear that members of Citizen Corp (CC) are under-represented in this sample. MRC and CC have different missions and recruit using different criteria (FEMA, 2011, 2012), which would explain the low numbers of CC members in the MRC and public health samples

However, according the Citizen Corps 2011 National Report (FEMA, 2012) 46 % of councils “partner with and support MRC...”, which might indicate potential overlap (p. 11). The

same report indicates both high engagement in educating and serving functional needs populations, and a heavy focus on emergency management for the citizen corps (FEMA, 2012).

This has several implications. If the citizen corps has a different frame of socio-cultural development, they may approach functional needs integration with greater success. Successful collaboration between CC and other response groups may improve acceptance and implementation of functional needs policies. Conversely, deeply ingrained culture of response segregation in disaster response and planning may diminish positive gains both within and from CC groups. Further research should characterize the CC and establish the relationship and overlap of CC with other response entities, current perspectives and approaches to functional needs. Finally, the targeting of messages to disaster volunteers may need to be tailored based on agency or group affiliation (Brannen, McDonnell, & Schmitt, 2013).

In terms of training, respondents had significant disaster response and medical training, and comparatively little functional needs training, despite the fact that many functional needs topics selected for this survey overlap medical or emergency response (Table 10). Of those who received training in disaster and medical response 50% had taken advanced disaster response classes, and 40-50% had hands on, acute medical training. Contrast this with reported rates of functional needs training, in which the highest levels of training were in wound care and diabetic care—skills that bridge functional needs and medicine in general populations that may be resistant to an identification of chronic care needs with disability (FEMA, 2010; Mont, 2007; WHO, 2002). Training in activities for daily living, such as toileting and transferring, ranged from 13%-23%. Additionally, even though obesity is a very common condition in the general population which impedes mobility, only twenty percent had any training in transferring patients. This skill is necessary in general shelters, which now have a higher likelihood of receiving

clients with impaired mobility (Centers for Disease Control & Prevention, 2007). While these trends reflect an increasing awareness of integration of functional needs skills in disaster response and public health scenarios, they also highlight a continued need to decrease the gap between training in functional needs compared to acute medical and emergency response skills.

Beyond training and professional identification, responder type on entry into disaster response, length of time in the field, and number of in field events were assessed to characterize experience. As described in the next paragraph, the data reflects the impacts of the World Trade Center attacks on September 11, 2001⁴ on the current analysis. Four clear groups of responders were noticeable in this study. The first, almost 37% of those who responded, had never assisted on a major emergency or disaster. Their length of experience in the field could not be assessed. The second group had less than five years of experience.

The nature and number of these two groups have three implications. They possibly reflect either: 1) those who have recently completed training programs in public health and emergency response (IOM, 2007), 2) the effects of funding decreases in the later part of the post-9/11 decade⁵ (Cherry & Trainer, 2008) or 3) that those with medical training are less likely to assist on a major disaster or public health event (Table 9), and the MRC and public health sampling cohort as a whole demonstrate high levels of medical training. Despite being the largest group with any experience assisting during an emergency, the second group had both a low mean years of experience and a low average number of event responses.

⁴ Also referred to as 9/11 or September 11th attacks.

⁵ The World Trade Center attacks in 2001 prompted increased funding to hire and train more personnel in these fields. Additional training programs take time to be established, and would be reliably generating larger numbers of public health/emergency disaster response workers during this time range. A subsequent decrease in funding around this time, has also caused more job positions to be merged. Additional cost saving measures included replacing retiring workers with entry-level workers.

All members of the third group had their first assist twelve years ago, which coincided with the September 11th attacks. The fourth group of emergency responders had a wide range of field experience. Despite the large gap between the both least (18 years) and most (38 years) experienced responder in the fourth group and the years of experience in the third group (12 years), both groups of responders had similar numbers of responders and mean number of major event assists. One might expect a linear relationship in which the responders with more length of time in the field would also have more live event experience. Figure 7 indicates a curved relationship instead. If the trend continues, it implies that the second and third groups will have more live event experience when they reach the same professional-years-in-field as currently more experienced group(s). This may reflect perceptual or cultural biases, or an actual change in the number of public health emergencies and disasters. Additional research may elucidate if either is true, and potential impacts on training and response.

If these trends are an accurate reflection rather than survey bias artifact, there are three implications for integrating functional needs into emergency disaster response and shelter administration culture. The first regards the aging of responder experience. Members with a longer participation history in emergency response may be less flexible in changing policies, procedures, and perceptions of functional needs clients in the emergency response and disaster system (Osterman & Kottkamp, 1993). As these members retire, if professional cultural transmission can be reduced or interrupted, newer members may more readily adapt to wider socio-cultural pushes and policy mandates (Bisin & Verdier, 2005; Osterman & Kottkamp, 1993) regarding the integration of functional needs clients into the disaster response system.

The second trend regards the larger nature of group two (least seasoned responders) and the static nature of group three (all responders had exactly 12 years of experience). Given the

probable motivation for joining emergency response, group three is not likely to grow. They are a transitory cohort which experienced the early attempts to improve service to functional needs clients. They may serve to provide a transition from more seasoned professionals (who are more likely to have internalized institutional segregation between acute/medical and chronic/disability categories) to fledgling professionals, who have trained and exercised in an era more influenced by the need and desire for integration. In retiring themselves, they may also provide a step function in archiving older perceptions that impede improved functional needs services.

The third implication regards training opportunities. If disaster responders experience more live events, they will have increased opportunity to interact directly with functional needs clients in disaster scenarios. By directly experiencing the compounded need for appropriate functional needs service, responders will have more opportunities to adjust perceptions, as well as implement and practice useful policies. Each incident, training or real, will provide responders with more opportunities for punitive and non-punitive feedback towards improving those policies and subsequent implementation.

The logistic regression indicated a relationship between training type and whether respondents had ever assisted on a live disaster event. The number of identified professional fields did not have a significant relationship to likelihood of responding to a disaster. Respondents were 43% more likely to have responded to a disaster if they had any disaster training. However, respondents were 20% less likely to have responded to a disaster if they had any medical training. Respondents had high levels of both disaster and medical training. MRC is predominantly made of medical providers, and only 11.4% of the sample identified as professional emergency responders. Given the history of disaster response, the nature of MRC being both a disaster and medical response volunteer organization (FEMA, 2011), and that

public health departments are required to provide community support in disasters and public health emergencies, one might expect both medical and disaster trainings to increase the likelihood of disaster response. Functional needs training decreased the likelihood of responding to a disaster by 8%, which would be consistent with the segregation of functional needs from disaster response. However, the confidence interval is very close to 1. It may be more so that functional needs trainings are currently less relevant to the decisions of MRC volunteers and public health workers to engage in disaster response than medical and disaster trainings.

Limitations

This study has several limitations. The entire cohort of Greene County MRC volunteers and public health workers were surveyed. Thus, while these primary results are reflective of the MRC and public health groups assessed, comparisons to other cohorts should only be made after careful consideration and after adjusting for the prevalence of denominator characteristics. Questions regarding administrative and policy professions were not included, so could not assess the contribution, attitudes or training of these professions. No descriptive statistics were directly collected on shelter administration⁶, attitudes or direct application in emergency disaster response. Rather, they focused on characterizing two groups (MRC and public health) who are likely to staff general emergency shelters. Conclusions cannot be drawn on these topics.

In observational cross sectional studies with sampling of the entire cohort, that participation is voluntary is a moral and legal imperative. Thus survey respondents from the cohort self-selected into the survey. Due to low response rates, descriptive statistics may only reflect the characteristics of those willing to take the survey. Particularly, the data related to length of professional experience and number of event assists may actually indicate that those with fewer years in the profession were more willing to respond to, or persist in completing, the

⁶ Non-specific to any profession

survey. Alternately, some organizations have limited room for advancement, which may result in fewer people persisting in any particular posting over the long term.

Finally, though descriptive statistics appear consistent with literature, no means testing was conducted. Significance may only be considered in the logistic regression model, and may not be assumed on the remaining results.

Strengths

In order to change perceptions and behaviors, it is critical to understand the characteristics of the population under in question. Literature characterizing emergency responders in functional needs contexts is scarce. This study can contribute to an understanding of what aspects of knowledge and training may influence potential disaster shelter workers, as well as identify further areas for research. This information can be useful in reducing barriers to changes in related policy and practice.

Conclusions and Recommendations

The results are consistent with literature regarding the overlap of emergency and medical training, and volunteer and employed personnel. They also indicate under-inclusion of functional needs training and personnel in organizations that are likely to serve functional needs populations arriving at general shelters. Given that both emergency response and medical fields have historically segregated populations with functional needs from what it considers the general population (Communities Actively Living Independently and Free et al. vs. City of Los Angeles and County of Los Angeles, 2010; FEMA, 2012; WHO, 2002; USDHS, 2006), this may be an underlying influence on the difficulty in implementing policies and procedures (Osterman & Kottkamp, 1993) to serve functional needs as part of the general population. Changing socio-cultural attitudes, including functional needs professionals and populations in planning and

training, and treating functional needs skills in the same classification as any other skill required to serve the general population, may assist in reducing barriers to improved service.

Further investigation and research to study composition, knowledge, and skill set of emergency disaster personnel, specifically related to general shelters and functional needs, is needed. Improving response rates, encouraging participation from volunteers with broader skill sets, addressing other professional categories, and characterizing a wider variety of agencies are important to improving comprehensive emergency response inclusive of all population segments. In addition, assessments specific to perceptions of functional needs, functional needs training, and functional needs service administration may be useful.

References

- Alexander, D. (1997). The study of natural disasters, 1977–97: Some reflections on a changing field of knowledge. *Disasters*, 21(4), 284-304. doi:10.1111/1467-7717.00064.
- American Philosophical Society Digital Library. (n.d.a). *Flashing light sign used with first exhibit at Fitter Families Contest. "America needs less of these, more of these; Some people are born to be a burden on the rest."* Photograph, negative number 870.044. (1926). Original scrapbook no. 575.06:Am3 no. 044. *American Eugenics Society Records*. Retrieved August 2, 2013, from <http://diglib.amphilsoc.org/islandora/object/graphics%3A1644>
- American Philosophical Society Digital Library. (n.d.b). *Flashing light sign "Some people are born to be a burden on the rest" used with small exhibit.* Photograph, negative number 870.049. (1926). Original scrapbook no. 575.06:Am3 no. 049. *American Eugenics Society Records*. Retrieved August 2, 2013, from <http://diglib.amphilsoc.org/islandora/object/graphics%3A1650>
- Americans with Disabilities Act of 1990 [ADA], as Amended. 42 U.S.C. § 12101-12213. (2008). Retrieved July 1, 2013, from <http://www.ada.gov/pubs/adastatute08.htm#12211a>
- Bisin, A., & Verdier, T. (2005). Cultural transmission. Prepared for the new Palgrave dictionary of economics (2nd ed.). Retrieved from http://www.nyu.edu/econ/user/bisina/Palgrave_culturaltransmission2.pdf
- Brannen, D., McDonnell, M., & Schmitt, A. (2013). Organizational culture on community health outcomes after the 2009 H1N1 pandemic. *Journal of Organizational Culture and Conflict*, 17(1), 1-18.

- Brannen, D., Fannin, A., & McDonnell, M. (2013) Evaluation of algorithms for chronic care triage prior to community mass care. [Abstract] and poster presentation presented at the Public Health Preparedness Summit, Atlanta, 2013. Retrieved online July 1, 2013, from <http://naccho.sclivelearningcenter.com/index.aspx?PID=6192&SID=170124>
- Brown, L. (2009) Eugenics, institutions, and elderly and disabled citizens in California. In the matter of public presentations, public comments. Retrieved from http://www2.co.fresno.ca.us/0110a/Questys_Agenda/MG159064/AS159087/AS159089/AI159268/DO159543/DO_159543.PDF
- Caring for special needs during disasters: What's being done for vulnerable populations? Hearing before the Subcommittee on Emergency Communications, Preparedness, and Response of the Committee on Homeland Security House of Representatives. 111th Congress. Serial No. 111-69. (2010). Retrieved from <http://www.gpo.gov/fdsys/pkg/CHRG-111hhr63092/pdf/CHRG-111hhr63092.pdf>
- Centers for Disease Control and Prevention. (2007). CDC's disaster planning goal: Protect vulnerable older adults. Media background paper by N. Aldrich. CDC Healthy Aging Program and Health Benefits ABCs. Retrieved from http://www.cdc.gov/aging/pdf/disaster_planning_goal.pdf
- Cherry, R., & Trainer, M. (2008). The current crisis in emergency care and the impact on disaster preparedness. *BMC Emergency Medicine*, 8, 7. doi:10.1186/1471-227X-8-7. Retrieved from <http://www.biomedcentral.com/content/pdf/1471-227X-8-7.pdf>
- Communities Actively Living Independently and Free et al. vs. City of Los Angeles and County of Los Angeles. (2010). Statement of Interest of the United States. Case No. CV 09-0287 CMB (RZx). Retrieved from http://www.ada.gov/briefs/calif_interest_br.pdf

- Communities Actively Living Independently and Free et al. vs. City of Los Angeles and County of Los Angeles. (2011). Proposed Order of Injunctive Relief. Case No. CV 09-0287 CMB (RZx). Retrieved from <http://www.scribd.com/doc/72197247/CALIF-v-City-of-LA-Injunctive-Relief-Order>
- Cwiak, C., Cline, K., & Karlgaard, T. (n.d.). Emergency management demographics: What can we learn from a comparative analysis of IAEM respondents and rural emergency managers? Document archived on the FEMA training website. Retrieved July 1, 2013, from <http://training.fema.gov/EMIweb/edu/surveys/Survey%20-%20CwiakCarol%20-%20EM%20Demographics-What%20Can%20We%20Learn.doc>
- DeMarsh, S. (2012). Emergency shelters, ADA, and FNSS compliance. Presentation by the County Attorney of Sarasota County, Florida. Retrieved July 2, 2013, from <http://www.fl-counties.com/docs/faca/emergency-shelters-ada-and-fnss-compliancepp.pdf?sfvrsn=2>
- Emergency Management Institute [EMI]. (2012). Chapter 3: Overview of federal disaster assistance. In Federal Emergency Management Agency [FEMA] (publisher) *IS-7: A citizen's guide to disaster assistance*. Retrieved from http://training.fema.gov/emiweb/downloads/is7unit_3.pdf
- Emergency Management Institute [EMI]. (2013). Emergency Management Institute history: A project of FEMA within the USDHS. Retrieved July 2, 2013, from <http://www.training.fema.gov/History/>
- Federal Emergency Management Agency [FEMA]. (2008a). Emergency support functions annexes: Introduction. Retrieved from <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-intro.pdf>

- Federal Emergency Management Agency [FEMA]. (2008b). Emergency support function #6 – Mass care, emergency assistance, housing, and human services. Retrieved <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-06.pdf>
- Federal Emergency Management Agency [FEMA]. (2010). Guidance on planning for integration of functional needs support services in general population shelters. Retrieved http://www.fema.gov/pdf/about/odc/fnss_guidance.pdf
- Federal Emergency Management Agency [FEMA]. (2011). Division of the civilian volunteer Medical Reserve Corps strategic plan, 2011-2013. Retrieved from https://www.medicalreservecorps.gov/File/DCVMRC_Strategic_Plan_2011-2013.pdf
- Federal Emergency Management Agency [FEMA]. (2012). Citizen Corps councils registration and profile: FY2011 national report. Individual and Community Preparedness Division. Retrieved from https://s3-us-gov-west-1.amazonaws.com/dam-production/uploads/20130726-1854-25045-2121/citizen_corps_councils_final_report_9_27_2012.pdf
- Fernald, W., Blackstone, H., Flood, E., Bridges, B., & Scribner, E. (1911). Report of the commission to investigate the question of the increase of criminals, mental defectives, epileptics, and degenerates. Wright & Potter Printing Co., State Printers: Boston, MA. Retrieved July 1, 2013, from http://books.google.com/books?id=EzFHAAAIAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
- Galton, F. (1909). Essays in eugenics. London: The Eugenics Education Society. Retrieved July 1, 2013, from <http://galton.org/books/essays-on-eugenics/galton-1909-essays-eugenics-1up.pdf>

- Gapminder. (2013). Graphical interface of population data by specified search terms. Retrieved July 2, 2013, from <http://www.gapminder.org/>
- Hornick, R. (2012). *The girls and boys of Belchertown*. Amherst, MA: University of Massachusetts Press. Retrieved excerpted edition July 1, 2013, from <http://books.google.com/books?id=qDPHseFNQFIC&pg=PA71&lpg=PA71&dq=%22Threat+of+the+Feeble+Minded%22&source=bl&ots=Zaj0BwwH0f&sig=dEVY9YR1O2Q2rv5yUGyX9StuM7Q&hl=en&sa=X&ei=0JjtUd-1KofS9QSzr4Ew&ved=0CFEQ6AEwBw#v=onepage&q=%22The%20Threat%20of%20the%20Feeble%20Minded%22&f=false>
- Hultman, N. E., & Bozmoski, A. S. (2006). The changing face of normal disaster: Risk, resilience, and natural security in a changing climate. *Journal of International Affairs* 59(2006): 25-41.
- IBM. (2011). SPSS statistics for windows, Version 20. Licensed to Wright State University, Dayton, Ohio.
- Institute of Medicine [IOM]. (2007). *Emergency medical services at the crossroads*. Committee on the Future of Emergency Care in the United States Health System and Board on Health Care Services. National Academies Press: Washington D.C.. Retrieved July 2, 2013, from http://www.nap.edu/openbook.php?record_id=11629&page=1 or http://www.nap.edu/download.php?record_id=11629#
- John Hopkins University. (2013). History of the department of emergency medicine. John Hopkins Medicine and Department of Emergency Medicine. Retrieved July 1, 2013, from <http://www.hopkinsmedicine.org/emergencymedicine/history/>

- Jordan, D.S. (1906). *The blood of the nation: A study of the decay of races through the survival of the unfit*. Boston, MA: American Unitarian Association. Retrieved July 1, 2013, from <http://archive.org/stream/bloodnationastu04jordgoog#page/n10/mode/2up>
- Marmot, M. & Wilkinson, R. (Eds.). (2009). *Social determinants of health* (2nd ed.). Oxford University Press: Oxford, UK.
- Mener, A. (2007). Disaster response in the United States of America: An analysis of the bureaucratic and political history of a failing system. *College of Undergraduate Research Electronic Journal (U of Pennsylvania College of Arts & Sciences)*. Retrieved July 1, 2013 from <http://repository.upenn.edu/cgi/viewcontent.cgi?article=1068&context=curej>
- Mont, D. (2007). Measuring disability prevalence. Social protection discussion paper no. 0706. The World Bank. Retrieved from <http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Disability-DP/0706.pdf>
- National Consortium on Leadership and Disability for Youth [NCLD-Youth]. (2007). Disability history timeline: Resource and discussion guide. Retrieved from http://www.nclid-youth.info/Downloads/disability_history_timeline.pdf
- National Academies. (2012). *Disaster resilience: A national imperative*. National Academies Press: Washington D.C.. Pre-publication version. Retrieved July 2, 2013, from <http://books.google.com/books?id=U9yUQSjJJaIC&printsec=frontcover#v=onepage&q&f=false>
- Nielsen, K. (2012). *A disability history of the United States*. Boston, MA: Beacon Press. Retrieved July 1, 2013, from http://www.amazon.com/Disability-History-United-ReVisioning-American/dp/0807022020/ref=reg_hu-rd_dp_img

- Noll, S. (1995). *Feeble-minded in our midst: Institutions for the mentally retarded in the south, 1900—1940*. Chapel Hill, NC: University of North Carolina Press. Retrieved excerpted edition July 2, 2013, from http://books.google.com/books?id=PEr1OEQMAAIC&pg=PA175&lpg=PA175&dq=%22The+Threat+of+the+Feeble+Minded%22&source=bl&ots=Wh1HdkmlzP&sig=_MMf_cMefUheAsePP4ZjoLXOUho&hl=en&sa=X&ei=0JjtUd-1KofS9QSzr4Ew&ved=0CDoQ6AEwAg#v=onepage&q=%22The%20Threat%20of%20the%20Feeble%20Minded%22&f=false
- Oliver, M. (1990). The individual and social models of disability. Paper presented at the Joint Workshop of the Living Options Group and the Research Unit of the Royal College of Physicians. Retrieved from <http://disability-studies.leeds.ac.uk/files/library/Oliver-in-soc-dis.pdf>
- Osterman, K., & Kottkamp, R. (1993). *Reflective practice for educators*. Corwin Press: Newbury Park, CA. Retrieved from <http://www.fgse.nova.edu/edl/secure/mats/rdgelach2.pdf>
- Peterson, L. (2010). Disability preparedness: Availability of ADA compliant emergency shelters across Pennsylvania. Spring Capstone project, Martin School of Public Policy and Administration and the University of Kentucky. Retrieved from http://www.martin.uky.edu/centers_research/Capstones_2010/Peterson.pdf
- Priestly, M. (1997). The Union of the Physically Impaired Against Segregation and the Disability Alliance discuss the fundamental principles of disability, November 22nd, 1975. 1975 document converted to unabridged document by V. Finkelstein and K. Davis. Retrieved from <http://disability-studies.leeds.ac.uk/files/library/UPIAS-fundamental-principles.pdf>

- Robbins, V. (2005). A history of emergency medical services and medical transportation systems in America. Retrieved from <https://www.monoc.org/bod/docs/History%20American%20EMS-MTS.pdf>
- Roosevelt, T. (1913). Letter from Theodore Roosevelt to Charles B. Davenport. Charles B. Davenport Papers. American Philosophical Society. Retrieved August 2, 2013, from <http://diglib.amphilsoc.org/islandora/object/graphics%3A1487>
- Saez, A. (2011). The implications of FEMA's,[sic] functional needs support services guidelines on the City of Orlando's Office of Emergency Management. City of Orlando Fire Department: Orlando, FL. Retrieved from <http://www.usfa.fema.gov/pdf/efop/efo46193.pdf>
- Saliba, D., Buchanan, J., & Kington, R. S. (2004). Function and response of nursing facilities during community disaster. *American Journal of Public Health, 94*(8), 1436-1441.
- Shah, M. (2006). Formation of the emergency medical services system. *American Journal of Public Health, 96*(3), 414-423. doi:10.2105/AJPH.2004.048793.
- Sherry, N., & Harkins, A. (2011). Leveling the emergency preparedness playing field. *Journal of Emergency Management, 9*(6), 11-16.
- Starr, P. (1982) Transformation of American medicine. New York, NY: Basic Books.
- Unite for Sight. (2012). Mental health online course: Chapter 2. Retrieved July 2, 2013, from <http://www.uniteforsight.org/mental-health/module2>
- U.S. Commission on Civil Rights. (2000). Sharing the dream: Is the ADA accommodating all? Chapter 2: The effects of the ADA. Retrieved July 2, 2013, from <http://www.usccr.gov/pubs/ada/ch2.htm>

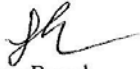
- U.S. Department of Homeland Security [USDHS]. (2006). Nationwide plan review: Phase 2 report. Retrieved from <http://www.scag.ca.gov/sein/docs/DHSNationalPlanReview.pdf>
- Watson, S. (2009). From almshouses to nursing homes and community care: Lessons from Medicaid's history. *Georgia State University Law Review* 26(3), article 13. Retrieved July 1, 2013, from <http://digitalarchive.gsu.edu/gsulr/vol26/iss3/13>
- Welch, P. (Ed.). (1995). Strategies for teaching universal design (excerpt). Migs Communication: Berkely, CA. Retrieved July 1, 2013, from <http://www.udeducation.org/resources/61.html>
- Winslow, C. E. (1920). The untilled fields of public health. *Science* 51(1306), 23-33.
- World Health Organization [WHO]. (2002). Towards a common language for functioning, disability, and health: The international classification of functioning, disability and health [ICF]. Retrieved from <http://www.who.int/classifications/icf/training/icfbeginnersguide.pdf>
- World Health Organization [WHO]. (2012). Measuring health and disability: Manual for WHO disability assessment schedule, WHODAS 2.0. Retrieved July 1, 2013, from <http://books.google.com/books?id=h9fhLNiaRTgC&printsec=frontcover#v=onepage&q&f=false>

Appendix A: IRB Approval

Office of Research and Sponsored Programs
201J University Hall
3640 Col. Glenn Hwy.
Dayton, OH 45435-0001
(937) 775-2425
(937) 775-3781 (FAX)
e-mail: rsp@wright.edu

DATE: March 22, 2013

TO: Athena Fannin, MPH, Student
SOM, Public Health
Sylvia Ellison, PhD, Fac. Adv.
Center for Global Health

FROM: B. Laurel Elder, Chair 
WSU Institutional Review Board

SUBJECT: SC# 5124

'Medical Reserve Flow Processes for Persons with Functional Needs in General Shelters'

At the recommendation of the IRB Chair, your study referenced above has been recommended for exemption. Please note that any change in the protocol must be approved by the IRB; otherwise approval is terminated.

This action will be referred to the Full Institutional Review Board for ratification at their next scheduled meeting.

NOTE: This approval will automatically terminate two (2) years after the above date unless you submit a "continuing review" request (see http://www.wright.edu/rsp/IRB/CR_sc.doc) to RSP. You will not receive a notice from the IRB Office.

If you have any questions or require additional information, please call Robyn Wilks, IRB Coordinator at 775-4462.

Thank you!

Enclosure

RESEARCH INVOLVING HUMAN SUBJECTS

SC# 5124

ACTION OF THE WRIGHT STATE UNIVERSITY
EXPEDITED REVIEW

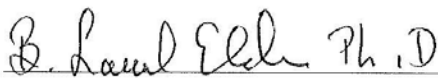
Assurance Number: FWA00002427

Title: 'Medical Reserve Flow Processes for Persons with Functional Needs in General Shelters'

Principal Investigator: Athena Fannin, MPH, Student
SOM, Public Health
Sylvia Ellison, PhD, Fac. Adv.
Center for Global Health

The Institutional Review Board Chair has approved an exemption with regard to the use of human subjects on this proposed project.

REMINDER: Federal regulations require prompt reporting to the IRB of any changes in research activity [changes in approved research during the approval period may not be initiated without IRB review (submission of an amendment), except where necessary to eliminate apparent immediate hazards to subjects] and prompt reporting of any serious or on-going problems, including unanticipated adverse reactions to biologicals, drugs, radioisotope labeled drugs or medical devices.



Signed _____ Chair, WSU-IRB

Approval Date: March 22, 2013

IRB Mtg. Date: April 15, 2013

Appendix B: List of Tier 1 Core Public Health Competencies Met

Domain #1: Analytic/Assessment
Identify the health status of populations and their related determinants of health and illness (e.g., factors contributing to health promotion and disease prevention, the quality, availability and use of health services)
Describe the characteristics of a population-based health problem (e.g., equity, social determinants, environment)
Use methods and instruments for collecting valid and reliable quantitative and qualitative data
Identify sources of public health data and information
Recognize the integrity and comparability of data
Identify gaps in data sources
Adhere to ethical principles in the collection, maintenance, use, and dissemination of data and information
Collect quantitative and qualitative community data (e.g., risks and benefits to the community, health and resource needs)
Use information technology to collect, store, and retrieve data
Describe how data are used to address scientific, political, ethical, and social public health issues
Domain #2: Policy Development and Program Planning
Gather information relevant to specific public health policy issues
Describe how policy options can influence public health programs
Gather information that will inform policy decisions (e.g., health, fiscal, administrative, legal, ethical, social, political)
Describe the public health laws and regulations governing public health programs
Participate in program planning processes
Identify mechanisms to monitor and evaluate programs for their effectiveness and quality
Domain #3: Communication
Communicate in writing and orally, in person, and through electronic means, with linguistic and cultural proficiency
Solicit community-based input from individuals and organizations
Convey public health information using a variety of approaches (e.g., social networks, media, blogs)
Participate in the development of demographic, statistical, programmatic and scientific presentations
Domain #4: Cultural Competency
Incorporate strategies for interacting with persons from diverse backgrounds (e.g., cultural, socioeconomic, educational, racial, gender, age, ethnic, sexual orientation, professional, religious affiliation, mental and physical capabilities)
Recognize the role of cultural, social, and behavioral factors in the accessibility, availability, acceptability and delivery of public health services
Describe the dynamic forces that contribute to cultural diversity
Describe the need for a diverse public health workforce
Domain #5: Community Dimensions of Practice
Recognize community linkages and relationships among multiple factors (or determinants) affecting health (e.g., The Socio-Ecological Model)
Demonstrate the capacity to work in community-based participatory research efforts
Identify stakeholders
Collaborate with community partners to promote the health of the population
Maintain partnerships with key stakeholders
Describe the role of governmental and non-governmental organizations in the delivery of community health services
Identify community assets and resources
Gather input from the community to inform the development of public health policy and programs
Domain #6: Public Health Sciences
Describe the scientific foundation of the field of public health
Identify the basic public health sciences (including, but not limited to biostatistics, epidemiology, environmental health sciences, health services administration, and social and behavioral health sciences)
Describe the scientific evidence related to a public health issue, concern, or, intervention
Retrieve scientific evidence from a variety of text and electronic sources
Discuss the limitations of research findings (e.g., limitations of data sources, importance of observations and interrelationships)
Partner with other public health professionals in building the scientific base of public health

Domain #7: Financial Planning and Management
Describe the local, state, and federal public health and health care systems
Describe the organizational structures, functions, and authorities of local, state, and federal public health agencies
Adhere to the organization's policies and procedures
Apply basic human relations skills to internal collaborations, motivation of colleagues, and resolution of conflicts
Domain #8: Leadership and Systems Thinking
Incorporate ethical standards of practice as the basis of all interactions with organizations, communities, and individuals
Describe how public health operates within a larger system
Participate with stakeholders in identifying key public health values and a shared public health vision as guiding principles for community action
Identify internal and external problems that may affect the delivery of Essential Public Health Services
Use individual, team and organizational learning opportunities for personal and professional development
Participate in mentoring and peer review or coaching opportunities
Describe the impact of changes in the public health system, and larger social, political, economic environment on organizational practices