ABSTRACT

Working Alone: The Risk of Lone Working with Home Healthcare Workers and the Effectiveness of Safety Voice in the Home Healthcare Industry

By

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The purpose of this study was to investigate the risk of working alone (lone working) in the home health care industry and the benefits of implementing safety voice (speaking up behavior), to identify opportunities for effective intervention, with the goal to retain satisfied home healthcare. This study seeks to understand practical solutions to manage risks and improve both worker and patient safety. It is without a doubt that the employer must protect and take care of its employees by providing necessary facilities and ensuring the workstation is safe. However, most employees with a focus on lone working are spending much time in the field working all by themselves and most of the risks faced by these workers go unassessed, which places lone workers at higher risk of facing the safety risks given the fact that they work alone with no one to assist them in the workplace in case of an emergency.

It is only logical to examine work organization in healthcare and home visiting healthcare specifically due to the emergence of home managed care, the priority given to cost

containment, and conversions to for-profit healthcare institutions over the last two decades. Furthermore, the trend of moving long-term healthcare into the community represents a structural shift in the healthcare industry, which gives rise to the need of home health workers.

Significant concepts emerged from this literature review on lone workers: risk perception of lone home healthcare workers; employee safety voice; organizations preventive and protective strategies for lone healthcare employees; and focus groups of home visiting health care providers. The results from this research will create awareness on the risk of lone working in general industry, with specifics in the home healthcare industry. Additionally, the results could be used to advise on efficient, safe lone-working measures and the use of employee safety voice to strengthen employee commitment to safe practices and awareness. The home healthcare workers (n=17) that contributed to this research were all selected because of their knowledge and experiences in the home healthcare industry. These participants have various career paths in the healthcare industry, ranging from physical therapists, occupational therapists to certified nursing assistants. All have substantial years of practical experience in delivering home health care to young patients and the aged communities. The participant’s responses to the interview and survey question revealed the safety concerns, occupational hazards at the patient’s home, and the need for employers to assess risk management on patients’ home before these workers visit the homes.

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CHAPTER 1

INTRODUCTION

Although no strict laws are covering lone workers, employers are to ensure an employee classified as a lone employee, should be provided a safe working environment. In the healthcare industry nurses, therapist, security detail(s) especially shift-work staff, could face the dangers of attack or other job-related incident without immediate assistance. As the number of lone workers is increasing in the healthcare community, safety continues to emerge as a significant concern for this group of workers.

Lone workers are vulnerable and at high risk of either verbal abuse or physical abuse and harassment from clients, their relatives, or the members of the public by the fact that they do not have immediate support from security staff or colleagues (Griffin & Neal, 2010). It is for this reason that a new approach needs to be applied when assessing the safety needs of the lone worker and minimizing risks as they carry out their daily duties. The critical requirement when addressing the safety issues for lone workers is to carry out a risk assessment to identify the risk areas that lone workers face and ensuring that all the control measures are in place to minimize the risks (Sanderson, 2016). The needs should apply to all work and where the staff safety is at high risk. Policies should give details of the working risks and set out the responsibilities of the institution or organization. NHS (2005) defines lone workers as those employees who work without colleagues nearby or are out of sight or earshot from one another. In this definition, it opens the net and includes those workers, for instance, working in the same building but do not have sight or earshot on their colleagues. Working alone subjects the worker to more hazards and hazards that can be eliminated if a co-worker was present at the time, as the risks that need to be assessed before allowing a worker to work as a lone worker in

any location where they may not need immediate assistance from a colleague (NHS, 2005). Employers must protect the lone worker by assessing the risks and reducing the risks involved such as the physical or even verbal abuse. The lone worker may also take a step in improving their safety while they work alone in the place of work through a framework that can allow them to assess and predict risks.

Purpose of Study and Synopsis

The purpose of this study was to establish the risk of working alone in the home healthcare industry and the benefits of implementing safety voice (speaking up behavior), to identify opportunities for effective intervention, with the goal to retain satisfied home health clientele. The study will seek to understand practical solutions to manage risks and improve both worker and patient safety.

Statement of the Problem

The problem for this research arises from need of safety measures or safe practices for lone workers in the home health nursing industry. It is without a doubt that an employer must protect and take care of its employees by providing necessary facilities and ensuring the workstation is safe. However, most employees with a focus on lone workers are spending much time in the field working all by themselves. Most of the risks go unassessed, which places lone workers at higher risk of facing the safety risks given the fact that they work alone with no one to assist them in the workplace in case of an emergency.

Research Questions

Using this research and interviews, this thesis answered the following research questions:

- How do characteristics of the work environment moderate levels of job-related violence experienced by home healthcare employees?

- In what ways can home healthcare organizations and employees identify and mitigate lone-working risk?
- How can the healthcare organizations implement employee safety voice practice to improve lone-worker safety?

Significance of the Study

The results from this research, established an awareness on the risks of lone working in the home healthcare industry. Additionally, the results could be useful in suggesting efficient, safe lone-working measures and the use of employee safety voice to strengthen employee commitment to safe practices and awareness.

Definition of Terms

Lone workers: A lone worker can be anyone who works alone in a fixed facility or away from his or her regular base (Coyle, Sleeman, & Adams, 2017). Mostly, the definition applies to those who work alone in factories, warehouses, hospitals. This description can also refer to traveling workers in construction, utilities, maintenance and repair, agriculture, and other fields.

Home Healthcare: A category of healthcare services rendered to individuals in the home for an illness or injury. Home health care is less expensive when compared to regular hospitals facilities, and most cases (treatment, therapy) are done alone.

Home Healthcare Worker: These are Certified Nursing Assistants (CNAs), and caregivers that are trained to provide non-custodial or non- medical health care.

Safety behavior: Work behavior concerning safety, such as safety compliance, personal protective equipment, and safety initiatives.

Safety Voice: Employees speaking up on how to improve occupational safety (Tucker, Chmiel, Turner, Hershcovis, & Stride, 2008).

Safety Climate*:* An objective measurement of attitudes and opinions toward Occupational Health & Safety issues (Coyle, Sleeman & Adams, 2017). It refers to the shared idea that the workers have when they are describing their organizational practices, procedures, and policies as they relate to safety within their organization (Griffin & Neal, 2010). Safety Climate is a measurable aspect of Safety Culture.

Group-level safety climate: Group-level perceptions of supervisors' commitment to safety (Zohar & Luria, 2005).

Safety Culture: This is managing safety or work performed. It is a combination of beliefs, views, and attitudes of employees toward the safety of workers and the general safety of the work environment. Cultivating a positive safety culture is a crucial aspect of upholding workplace safety (Zohar & Luria, 2005).

Risk Assessment: Risk assessment, refers to identifying potential hazards in the workplace as well as the likelihood that they will occur. Risk assessment is a significant part of health and safety management. The Occupational Safety and Health Administration (OSHA) advises employers to instrument best practices reducing hazards in the workplace (2017).

Response Rate: This is the percentage of people that respond to a survey. Response rate is calculated using the equation: # of responses to your survey / total number of participants for survey x 100.

Phenomenology: Phenomenological philosophy is best conceived of as an ongoing project, one that aims "to bring philosophy back from abstract metaphysical speculation wrapped up in pseudo-problems, in order to come into contact with the matters themselves, with concrete living experience." (Moran, 2000).

Hermeneutics: Hermeneutics is derived from the Greek verb, hermēneuein, to interpret and the noun hermēneia, interpretation and its aim is “to make meaning intelligible” (Grondin, 1994).

CHAPTER 2

LITERATURE REVIEW

Working Alone In-Home Healthcare

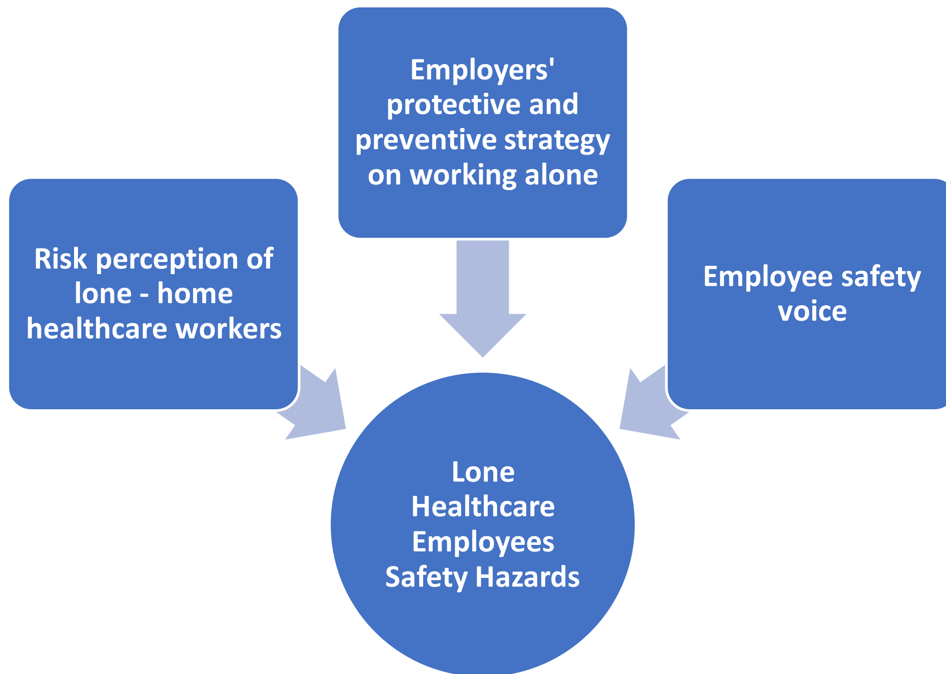
Going through the previous literature on lone workers about their risk perception and the need to minimize the risks, the library database and various publications of journals and articles undertaken in the early stages of the research. Most of the literature cited are publications in major countries such as the U.S. and U.K., however efforts were made to include works of literature from other countries to allow for comparison. Homecare work is often precarious work, due in part to neoliberal policies that have promoted deinstitutionalization, community care, and the quicker release of patients from hospitals.

Lone workers are a select group of workers that go around their duties in remote workstations without direct supervision from their supervisors (NHS, 2005). No satisfactory definition represents those who may be working in lone conditions (NHS, 2005). The term “lone-worker,” is used to define those workers who work either occasionally or regularly without immediate support from the colleagues or supervisors (NHS, 2005). It is therefore critical to understand the safety climate of the lone workers to be able to offer a working solution to the problem, which by existing literature, has not been covered. Studies on employee safety climate have increased over the years (Huang, Cheng & Grosh, 2010), but most of them have focused on the native working environment where the supervisors and workers interact more directly with one another. Little research has been done on lone workers (Huang et al., 2013). There has been little research done to examine the safety climate of lone workers given the fact that lone working is becoming more prevalent over the years across different industries. It is therefore

becoming critical to examine the safety climate and discover ways of minimizing risks while in the workplace.

The work organization as proposed by the National Institute for Occupational Safety and Health (NIOSH) and literature on lone workers is the base for the conceptual framework, below is a model showing key factors that identify safety hazards in home health. The hypothesized model was adapted from the NIOSH/NQRA organization of work Framework.

Figure 1. Hypothesized Model of Lone Employees in the Home Healthcare Industry



It is only logical to examine work organization in healthcare and home visiting healthcare specifically, due to the emergence of home managed care, the priority given to cost containment, and conversions to for-profit healthcare institutions over the last two decades (Lipscomb & Borwegan, 2000). Furthermore, the trend of moving long-term healthcare into the community represents a structural shift in the healthcare industry (Maryland Healthcare Commission, 2001;

NAHC, 2001; Szasz, 1990). Making use of the resources from the NIOSH/NORA Organization of Work, we can break down these concepts into practical means for this study. Figures 2 and 3 shows the framework of safety concerns, from organizational to individual factors.

Figure 2. Structural framework of safety concerns on lone home healthcare workers

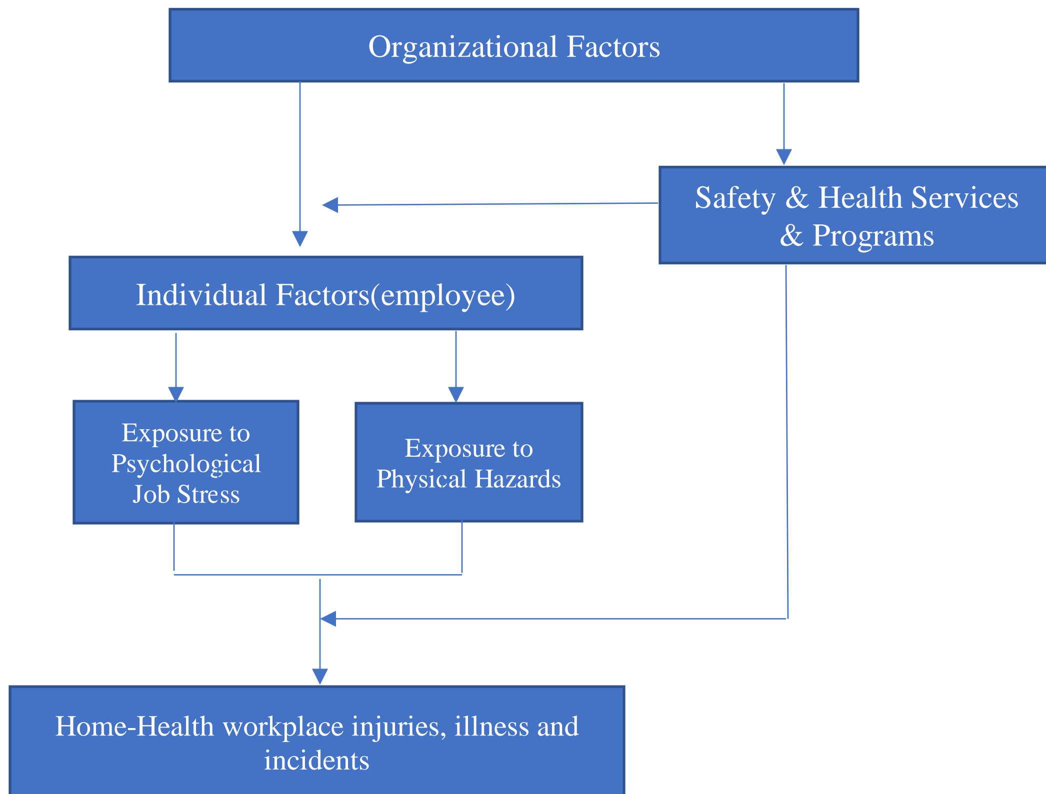
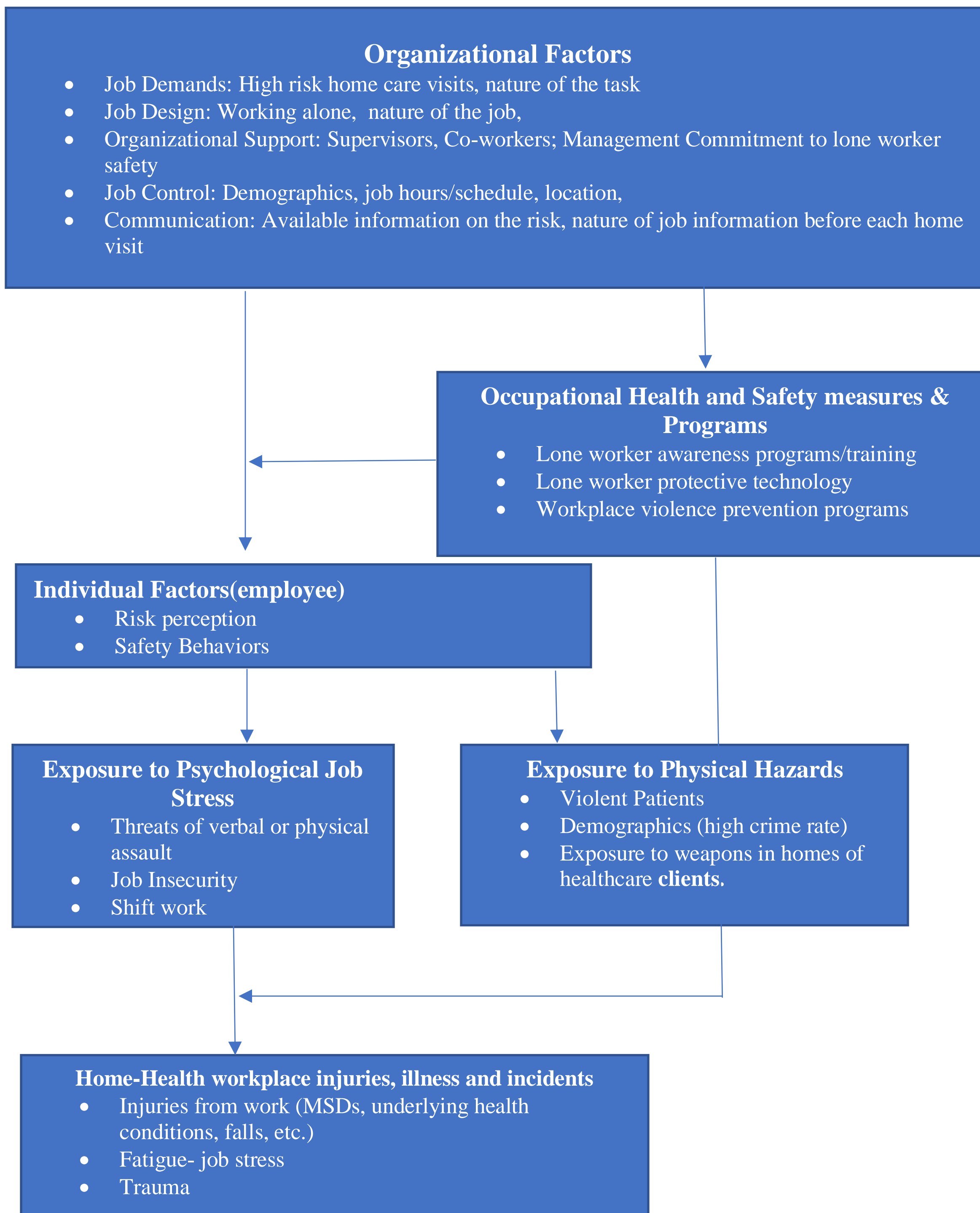


Figure 3. Conceptual framework of the safety concerns on lone home healthcare workers (NIOSH, 2001)



Lone workers often experience earnings insecurity, job insecurity, irregular shifts and few fringe benefits, and work in isolation from other workers and their employer. Like other workers engaged in precarious employment, they may be more likely to experience work-related injuries and illnesses than non-precarious workers. These risks are particularly substantial among temporary agency workers and workers based in a home. Studies on the occupational safety and health (OSH) of homecare workers is limited internationally. The research that exists has looked at the impacts of healthcare restructuring on the health and safety of homecare workers, regulatory challenges associated with work located within a private residence, and transport and OSH challenge.

Lone Workers in General Industry

There have been legal frameworks that hold employers responsible for the safety of their employees always through creating safety policies that workers need to attend to at work. For instance, the Health and Safety Act of 1974 (UK) set out the legal framework that would ensure the safety and welfare of employees are adhered to while at the workplace (NHS, 2017). The Act of 1974 gave the structure on to protect workers, although there is no specific rule for lone workers. Advancing to the bill of 1999, regulation 3 states that every employer should have enough assessment of the risks that the employees may face while completing their duties in the workplace. For the Health and Safety Executive (HSE), it has made safety climate its center of focus as it highlights the issue bit by bit. For some lone workers, safety depends on their individual safe decision-making (Huang et al., 2014). However, lone workers can experience greater safety risks under hazardous situations such as equipment failure, inclement weather, violence, and possible underlying health conditions (Huang et al., 2014). Lone workers must deal with these issues independently with only limited access to timely assistance from co-workers or

supervisors, which is more obtainable in non-lone working situations (HSE, 2009). Looking further into lone working in industries other than home health, the trucking industry has a significant number of individuals who drive long distances alone and are sometimes exposed to unfavorable weather conditions, road rage incidents, and possible health emergencies without immediate access to assistance when needed (Huang et al., 2014). As the research progresses, a truck driver would be part of the research process, solely for expanding the knowledge pool on lone working in high risk industries as well as participants from the home health care industry. Lone workers can be grouped into these 3 types:

Public-facing lone workers: Public facing lone workers are those who meet and face the public daily. Lone employees sometimes have no idea what the working conditions may be, the task/job, or the background of the people they could face (Young, 2010).

Examples of public facing lone workers:

- Retail Workers
- Social Workers
- Housing Officers
- Care Workers
- Probation Officers
- Medical Workers

The organization may have more than one lone worker; some employees fall into the categories. Therefore, individual risk assessments are essential. Understanding the workforce and recognizing the risks to their safety is the duty of an employer. (Young, 2010). A risk assessment will identify the lone workers' risks in the three categories:

- People – Whom will the employees meet?

- Environment – Where will they be working?
- Tasks – What job task are they doing?

***Mobile lone workers**:* Mobile lone workers are those who do not work in a fixed location and could, therefore, be at risk from various elements including the public, their environment, and the tasks they are performing. Some mobile workers are at more risk resulting from the public, and others a higher environmental risk (Young, 2010).

Here are a few examples of lone mobile workers:

- Heavy goods vehicle operators
- Couriers
- Construction Equipment operators
- Inspectors
- Surveyors
- Security personnel

***Fixed-site lone workers**:* Fixed-site lone workers are those who work at a fixed location and often have little contact with other people. These sites usually include high-risk areas such as building sites and factories (Young, 2010).

Examples of fixed-site lone workers:

- Nurses
- Site Maintenance Officers
- Shift Workers
- Machine Operators
- Facilities Managers

As mentioned earlier in the literature, working alone does not only relate to the home healthcare industry but many others. The construction industry also has underreported cases of lone worker incident

Lone Worker Regulations

Many regulatory bodies across the world are responsible for reinforcing safe work environments (Young, 2010). These are two major regulatory bodies always referred to in this literature.

What is the Health and Safety Executive (HSE)?

The Health and Safety Executive (HSE) is the body responsible for regulation, and enforcement of workplace health, safety and welfare, and for research purpose into occupational risks in England, Wales, and Scotland ("Lone Worker Regulations | Lone Worker Guide," 2016). The HSE is run by the Department for Work and Pensions and is a crucial source of lone worker safety information.

However, the law requires employers to deal with carefully, any health and safety lone working risks just like its American counterpart, OSHA, employers are responsible for the health, safety, and welfare at work of all employees. They are accountable for the health and safety of any contractors or self-employed people doing the job (Home Health Care Patients and Safety Hazards in the Home 1970). These responsibilities cannot be transferred to other people, including those people who work alone. Employees are responsible for taking care of themselves, and those affected by their work co-operate with their employers in meeting their legal obligations (n.d.).

What is OSHA and its responsibilities?

The Occupational Safety and Health Administration (OSHA) is governed by the United States Department of Labor (DOL), that is made solely to assure safe and healthy working conditions for both career men and women by enforcing standards and making available training and assistance (US DOL, 2007). When talking about lone worker safety, OSHA suggests regular checks are done on lone workers. Regulatory bodies are responsible for enforcing the regulations. Workplace Safety inspections are performed at workplaces and prosecute businesses that fail to comply with legislation (US DOL, 2007).

OSHA Regulations

OSHA's regulations for tunnels, shafts, chambers, and passageways (29 CFR 1926.800) requires, "Any employee working alone in confined spaces, underground in a hazardous location, who is both out of the range of natural unassisted voice communication (US DOL, 2007). Not under observation by other persons, shall be provided with an effective means of obtaining assistance in an emergency (US DOL, 2007). OSHA's General Duty Clause states, in Section 5(a) 1, "each employer shall furnish to each of his employee's employment, and a place of work, which is free from recognizable hazards, likely to cause physical harm to the employees.

Lone Worker Case Studies

Case study 1

Accident occurred in Oregon in 2006, where a ranch hand was ***working alone*** in a hay field, moving irrigation equipment (Jen, "Lone Worker Safety," 2014). The irrigation equipment malfunctioned, and pressurized water struck the worker in the face, knocking him unconscious and causing a severe brain injury (Jen, "Lone Worker Safety," 2014). The ranch manager saw a

geyser of water from the ranch house and hurried to the area, where he found the ranch hand (Jen, "Lone Worker Safety," 2014). The victim had to be transported to the hospital but died of his injuries.

The irrigation wheel (left) connects to a heavy rubber supply line, which attaches to a removable valve (right foreground). The valve mounts over pressurized risers installed in the field, like the one shown here that failed (right background) (NIOSH, 2006).

Case study 2

OSHA cites TMT in Dallas, Texas, following the robbery, death of the worker," n.d.). This is inclusive of other safety violations following an aggravated robbery assault that resulted in the death of an employee at the company's Whip-In store in Garland. OSHA's Dallas Area Office opened an investigation at the Garland store in May after an employee at the checkout counter became a victim of assault during a robbery and later died from second- and third-degree burns OSHA also investigated the company's other stores in Dallas and Mesquite and found that workers at those locations had similar workplace hazard exposure (U.S. Department of Labor Office of Public Affairs 19 November 2012).

"Working alone leaves employees vulnerable to violent crimes," said Stephen Boyd, OSHA's area director in Dallas. "If the employer had analyzed to identify risks while working alone, appropriate control measures and training will be provided to avoid harm inflicted on the

employee. Each store was cited for violating OSHA's "general duty clause" for failing to provide a workplace free from recognized hazards likely to cause severe injury or death. A serious violation occurs when there is the substantial probability that death or serious physical harm could result from a risk about which the employer was aware or should have known. The citations carry total proposed penalties of $19,600.

Case Study 3

One late fall evening in 2009, a 53-year-old male technician was ***working alone*** at a repair shop. At 9:45 PM, the technician returned to the store with his dinner from a nearby fast-food establishment. He spread his lunch on the workbench and began eating when he was attacked from behind. A knife was used to cut the technician’s carotid artery and jugular vein on the left side of his neck. The attacker fled, and the technician used a cell phone to call 911, emergency medical services (EMS). When EMS arrived, they found the technician dead at the scene (U.S. Department of Labor Office of Public Affairs 19 November 2012, "OSHA cites TMT in Dallas, Texas, following the robbery, death of a worker," 2012).

Case Study 4

In 2012, a 37-year-old female technician employed by a surface-refinishing business died from inhalation exposure to methylene chloride and methanol vapors while she used a chemical stripper to prep the surface of a bathtub for refinishing. The technician was ***working alone*** without respiratory protection or ventilation controls in a small bathroom of a rental apartment. After hours at work without reporting back, Emergency service was called to say the case and found the employee unresponsive, slumped over the bathtub.

City Fire Department responders arrived within 4 minutes of the 911 call. The apartment manager and first responders reported a strong chemical odor in the second story apartment.

There was an uncapped gallon can of Klean Strip Aircraft Low Odor Paint Remover (80-90% methylene chloride, 5-10% methanol) in the bathroom. The employee's tools and knee pad were found in the tub, suggesting the employee had been kneeling and leaning over the tub wall to manually remove the loosened original bathtub finish coat (NIOSH, 2012).

The Risks of Lone Working

Achieving the category of lone workers, there should be an individual risk assessment on each employee or task performed ("Risks of Lone Working - How to Identify Risks and Prepare Employees," 2016). Some risks are present in all the groups, while, some are specific to just one. Listed below are a few risks associated with lone working.

- Sudden illness or accident
- Violence, threats, or abuse
- Theft or intruders
- Driving-related incidents
- Extreme weather

Although lone working spans across numerous fields such as, healthcare, construction, manufacturing, security and many others, the focus of this study is on home healthcare workers, which includes nurses, therapist, and social workers.

Accident/Incidences Rates among Lone Workers

The number of lone worker accidents has grown by 13% over the last five years according to National Health Service of UK (NHS, 2017), which has continued to raise questions about how safe the solitary work environment is. For instance, for truck drivers, NHTSA (National Highway Traffic Safety Administration) reports that out of the 3,300 fatalities and 74,000 injuries that occur on the road involve truck drivers who happen to be lone workers. After

three decades of research on safety climate for lone workers, Zohar (2010) proposed measures to curb the increasing number of accidents. Zohar (2011A) based his proposition on three pillars: an assessment of the safety climate, a multi-perspective considering the safety climate, and organizational opinion of the safety climate (Zohar, 2010). The proposition was subject to the test to give new understanding on the idea of safety climate from an individual point of view through a group level view. A social, ecological model applied to this study of the safety climate on lone workers because it gives multiple views of the idea, which are the different spheres of influence. The areas include the microsystem where the individual is mentality shaped by the environment and the people whom they interact with (Zohar, 2010). The same way social interaction relates to people who associate within a microsystem, it is the same way people experience effects from the interaction. Mesosystem refers to influencing the organizational factors such as policies and rules that impact the environment in which the individual works (Zohar, 2011A). The basis of this research will be to examine the Mesosystem as a way of improving the working environment for lone workers by strengthening the safety climate. According to National Health Services (NHS, 2005) definition of lone workers, it describes lone workers as not only those workers that work alone but also those who work in isolation without colleagues nearby despite them being in the same building especially if they must work outside the regular hours. Working in out of regular hours presents a significant risk to workers and even more meaningful for the lone workers. It is because of this reason that provision of specific guidance is provided to lone workers, which can assist the managers in overseeing their workers always (Christian, Bradley, Wallace, & Burke, 2009). For lone workers, they report that they feel so much constrained in the work environment, which makes them so far restless, which may cause the working environment to be more turbulent (Christian et al., 2009). It is the perception

that makes the work environment to be such a hostile condition to the lone workers even though it may seem familiar to them. The US government has launched a detailed research into the nature of solitary working, and the training that these individuals receive, which can help them in handling the risky factors within such unsafe environments that they perform in (Huang et al., 2013).

There may be diverging opinions on lone working, but what can be agreed on is the fact that the working environment is changing rapidly, a point that must be observed from different angles. The need to respond to these changes presents even a more significant challenge to the governments of different countries.

When is working alone prohibited by Law?

The Law prohibits working alone in the event of high-risk tasks, such as; confined space entry, trench excavations, waterlogged excavated ground, use of a vehicle. Works based on the risk assessment conducted by the safety supervisor in consultation with the specific employee and use of safety regulation that will require more than a lone employee to perform, such job must have adequate safety measures for the lone worker(s). After the murder of a home visiting mental health nurse in New York State (PESH, 1999), OSHA required remediation, which included allowing accompanied visits when staff felt there was a reason to.

Home Healthcare Workers and OSH

Health and safety hazards in the home healthcare work environment are challenging because homes are highly variable, and the dispersion of the workforce is geographic and transient. The home workplace has characteristics that contribute to adverse safety and health outcomes: it is a less organized, controlled, and more unpredictable care environment than a facility setting [Markkanen et al., 2007; Quinn et al., 2009]. Healthcare and social workers also

face a significant risk of job-related violence at client work site and hospitals. National Institute for Occupational Safety and Health (NIOSH) defines workplace violence as “violent acts (physical assaults and threats of assaults) directed toward individuals at work or on duty ("NIOSH Research Backgrounder: Study Examines Risk of Job-Related Violence for Home Healthcare Workers," 2012). It is notable that occupational hazards deemed unacceptable in a public setting convert to “something we just need to put up with” for a comparable job in the home-setting (Markkanen et al., 2007).

A Royal College of Nursing survey of more than 1,300 community nurses, taken in June 2015, revealed that in the past years, half of the workers had subjection to abuse while working. It found that one in nine had experienced physical as well as verbal attacks, and only 13% of nurses had access to personal alarms or lone worker protection devices (Dean, 2016). Home healthcare workers in communities and home services challenges are faced with unique risks when working alone in patients’ homes. Even in much healthcare facilities, staff working some shifts or in low traffic areas may also find themselves alone.

Home care workers can face significant work-related health and safety risks. Activities that involve lifting, moving patients, lone working as well exposure to infections, violence, and abuse and general hazards, such as slip, trips and falls (Dean, 2016). Most of the home health care workers are of the female population that play a crucial role in improving the life quality of individuals that need care. This is not only limited to the sick but also those with learning difficulties and people suffering from mental ill-health care (HSE, 2016). Looking after adults and children in a wide variety of settings ranges from highly intensive residential establishments through to caring for patients at home (Markkanen et al., 2007). The demand for home care

services is increasing in most Western countries due to the aging population, increased female participation in the labor market.

Home health care has become a key component in the delivery of healthcare in the United States. Rising health care costs stemming from increased prevalence of chronic diseases, lengthy hospitalizations, and hospital readmissions have shifted the paradigm from in-hospital care to caring for clients in the home ("Frequency and Risk of Occupational Health and Safety Hazards for Home Healthcare Workers," 2014). Cost containment strategies shifting care to the home have highlighted a vital role for home health care in reducing readmission rates and improving outcomes ("Frequency and Risk of Occupational Health and Safety Hazards for Home Healthcare Workers," 2014). This important shift to care for clients in the home has increased demand for home health services and subsequently has led to an overwhelming need for home health care workers (HHCWs). Home healthcare jobs come at a high expense on the safety and health of HHCWs ("OSHA Cites Tool Manufacturer for Safety Hazards; Inspection Part of Targeted Enforcement Program," 2014).

As per the Bureau of Labor Statistics (BLS) in 2014, the rate of injuries for HHCWs was twice the average for hospital workers and three times above the national average (BLS, 2012). The injuries among HHCWs identified are overexertion injuries, workplace violence, and needlestick injuries among others (BLS, 2012). Despite the high injury rate and increased demand for HHCWs, few studies have characterized the type and frequency of health hazards that these workers face in the home environment. Home healthcare is one of the many occupations where workers experience precarious employment (BLS, 2014).

Home healthcare workers are at risk from hazards and insufficient means to handle such hazardous situations. Some of these hazards identified could be; stress and long hours, noisy

machinery, exposure to air contaminants such as fibers and dust that can cause breathing difficulties or allergies due to poor ventilation. Violence, musculoskeletal disorders, reports on verbal abuse were factors in other studies to be a rising risk home healthcare workers face, especially those home care workers that work alone. Dementia or other mental illness emerged as a factor for verbal abuse, including inappropriate language or voice tone, and sometimes physical abuse.

There is limited research on home care workers' OSH issues. Existing research shows that some of these workers are exempt from workers' compensation thus, classified as independent contractors or domestic workers. Recent studies examine the vulnerability of workers employed in consumer models of home care. The recent research has linked OSH in home healthcare workers to changes in the organization of work due to the restructuring of the healthcare system that has intensified work, encouraged job insecurity, and led to an increase in musculoskeletal disorders and work-related stress. Some of the existing research examines the workplace health and safety challenges associated with working in private homes rather than formal workplaces; some compare agency-hired and client-hired homecare workers' OSH issues and one study compares urban and rural homecare workers' OSH issues. The Royal College of Nursing (Smith, 2007) published a survey into lone working. There were many disturbing findings from the study, including:

- Thirty-eight percent of nurses admitted they had rarely or never carried out a risk assessment before going on a visit.
- More than half (52%) of the 1000 nurses surveyed stated that they thought the risk of violence had increased in the 12 months before the survey.

According to the latest figures from the Health and Safety Executive (HSE), there were an estimated 627,000 incidents of violence at work in the 12 months leading up to March/ April 2008, comprising 321,000 assaults and 305,000 threats (HSE, 2010).

An estimated 150,000 registered nurses and other professionals work in home health care, but 85% of this workforce (1.5 million workers) are low-skilled or unskilled paraprofessionals. Among them are 787,000 home health aides, who, under the direction of nursing or medical staff, provide such health-related services as helping administer oral medications and assisting clients with personal care and light housekeeping tasks. An additional 767,000 personnel and home care aides are employed directly by consumers or agencies and work with the elderly or physically or mentally disabled persons, assisting with personal care, housekeeping, meal preparation, and shopping. These workers are not subject to national training standards, although some states have established their requirements. NIOSH notes; "There are about 4 million home health care workers who work in isolation and without the necessary and additional safety measures and benefits that workers in traditional health care settings receive" (Smith, 2007). NIOSH Director John Howard said in a press release, quoting "It's important that home health care workers have the knowledge and tools to protect themselves from the serious and even life-threatening hazards they may experience while at work." (Smith, 2007)

Healthcare organizations are failing in their legal duty to protect lone workers, with only one in five community nurses offered safety alarms, according to research commissioned by the RCN. A survey involving 766 nurses found that 10% had physical abuse by patients in the previous 24 months. 60% experienced verbal abuse in the same period.

About 40% of nurses felt risks to lone workers had increased since the start of 2010, with increased caseloads, rising patient and career expectations, and increased levels of substance

misuse in part to blame. The U.K. Department of Health released funding in 2009 to provide 30,000 lone workers with alarm devices. Only a fifth of nurses have those alarm devices. (HSE, 2010). Health care and social health assistance experienced an incidence rate of injuries and illnesses of 5.2 cases per 100 full-time staff down from 5.4% cases in 2009 and was the primary lone-industry sector in which both reported employment and hours worked increased in 2010 (HSE, 2010). Violence directed toward nurses and other healthcare providers may lead to occupational injury and work stress potentially resulting in lost work time and increased staff turnover, which, in turn, affects patient care.

Other possible adverse outcomes include reduced staff morale and productivity, increased absenteeism, increased use of temporary agency personnel, and increased costs of providing healthcare. Occupational health nurses, who provide care and develop preventive programs for workers exposed to occupational hazards will add the findings of this study to their evidence base for health promotion and injury prevention.

The Bureau of Labor Statistics reports that home healthcare and social service workers have one of the highest rates of exposure to workplace violence. Studies show that as many as 92% of healthcare workers have experienced abuse or violence, including threatening behaviors, physical assault, and sexual harassment, by patients (BLS, 2016). On April at the 2009 Safe Patient Handling and Movement Conference at Lake Buena Vista, Florida, preliminary results of the research were made public ("NIOSH Research Backgrounder: Study Examines Risk of Job-Related Violence for Home Healthcare Workers," 2012). The NIOSH results from the study of violence in home healthcare were prepared for peer-reviewed journal publication in early 2010 ("NIOSH Research Backgrounder: Study Examines Risk of Job-Related Violence for Home Healthcare Workers," 2012). The preliminary results indicated:

- Thirty-one (4.6 percent) of the survey respondents reported assault (hit, kicked, shoved, or bitten) by a patient one or more times during the past 12 months ("NIOSH Research Backgrounder: Study Examines Risk of Job-Related Violence for Home Healthcare Workers," 2012).
- Specific factors were predictive of risk of physical assault by patients: patient handling (lifting/moving/bathing/dressing), caring for patients with dementia and feel threatened by violence from others in and around the patients' homes.

Workers assaulted by patients were likely to limit visits when feeling unsafe. Shortening these home care visits in those circumstances is an adequate method for protecting workers, but it inevitably reduces the quality of patient care (NIOSH, 2012).

The actual rate of experienced violence may be even higher, as underreporting of client violence is rampant in the healthcare field (NIOSH, 2012). “Violence’’ in the workplace should not be an occupational hazard. While agencies have both a legal and an ethical obligation to ensure staff safety, it is safe staff that can provide optimal care to patients and clients served (NIOSH, 2012). With this awareness, the Joint Commission Organization issued a Sentinel Event Alert in 2008 reporting that workplace violence and aggression, once viewed with (NIOSH, 2012).

On August 2016, a home health services provider in the US had a fine, because of an incident where a worker was assaulted sexually by a client while providing health care services in the client’s home. The fine issued by OSHA concluded that the employer had no means for reporting threats or incidents of violence in the workplace (Veterans Affair National Center for Patient Safety, 2007). Home healthcare workers don’t frequently report to their employer when they meet with violence while at work. Therefore, the true extent of abuse in the home healthcare

industry is unknown (Lanza & Campbell, 1991). Violence can lead to death: five home healthcare workers lost their lives in 2006 because of assaults and violent acts (BLS, 2007). Abuse can have undesirable outcomes that can affect the organization itself, such as; lower worker's morale, high rate of job stress, and increased turnover in workers. Such violence directed to the home healthcare workers and other healthcare providers may lead to occupational injury such as MSDs and work stress potentially resulting in lost work time and increased staff turnover. That will affect patient care; other possible adverse outcomes include reduced staff morale and productivity, absenteeism, increased use of personnel, and high costs of providing healthcare to the public.

Finally, given the isolated nature of home visiting work, the unpredictable nature of each home visit, and the lack of formal security or environmental hazard controls, a broad definition will assure that low-level violence is measured in this unstudied workplace. As noted by needle stick safety researchers, the work environment in home visiting work is unpredictable and uncontrolled (Haiduven & Ferrol, 2004). Home healthcare workers may need to resolve violence issues without immediate help from supervisors or co-workers. Clients may have complex physical, psychological, psychiatric, or special needs. The potential presence of alcohol and drug abuse, firearms in patient homes, further endangers the worker (Fazzone, 2000). Ergonomic risks are associated with caring for patients in places with ergonomic issues, especially in the absence of colleagues or mechanical devices for assistance (MPH, "Occupational Safety of Home Health Workers," 2003). Tuberculosis, bloodborne pathogens, and other biological agents may cause infection (NIOSH, 2017). OSHA does not hold employers responsible for providing safety syringes or tuberculosis surveillance to home care workers while performing hazardous jobs, indicating inadequate regulations on home healthcare workers (NIOSH, 2017).

Motor vehicle crashes revealed to be the most common cause of work-related mortality, accounting for 25% of the excess risk in home healthcare workers more than those who work in other healthcare set-ups (NIOSH, 2017). Shift work, unsafe work environments, inadequate control of work vicinity, caring for severely disabled patients, low wages, and inadequate benefits could lead to psychological stress adding to the dangers faced by HHCW who work individually on their daily jobs.

The home healthcare industry is faced with several challenges that are not present in hospital or other in-patient healthcare settings. Few studies have been done on stress among home healthcare workers, but some studies show that these employees', face a great deal of job stress. The home healthcare job setting may present job stressors such as inadequate control over job situation, and exposure to MSDs. Retaining HHCW is of high importance for some home healthcare agencies, and providing a more healthful, less stressful, work climate is an integral part of any retention strategy. NIOSH defines job stress as "the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker" (NIOSH, 1999). Job stressors indicators can include job task demands such as work overload, time pressure, and organizational factors, such as reduced interpersonal relations, lack of support from supervisors and colleagues (Hurrell and Murphy, 1992). Other sources of stress, of importance in the home healthcare industry, are socio-economic factors, training, and career development issues, and conflict between work and family roles and responsibilities (Sauter and Swanson, 1996). Protection of home care workers requires a redefinition of "home" as "workplace" and "home care" as "health care."

This clear definition would help ensure greater safety and workplace quality for this vulnerable employment sector (NIOSH, 2017). The Royal College of Nursing (RCN) set up a

campaign that called on its government to increase the protective measures for lone workers. In a survey of a thousand nurses (1000), results show that about four out of ten had faced harassment or assault in the past years while working alone. Only 44.6 % of verbal assaults and 86.5% of physical assaults were reported to managers, the survey revealed. Below is a figure showing the statistically significant risks to home health care workers, 50% of HHCWs', are exposed to all assaults, and 20% of workplace injuries happen to these workers.

Safety Voice in Home Healthcare Organizations

Hirschman (1970) defined safety voice as an effort to "change, rather than escape from, an objectionable." LePine and Van Dyne (2001) precisely defined employee safety voice as a "constructive change-oriented communication intended to improve a situation." An extensive body of research on employee safety voice in organizations has accumulated in recent years (Dundon, Wilkinson, Marchington & Ackers, 2004; Morrison & Milliken, 2003). Employee safety voice as defined earlier can include actions like raising safety concerns with a manager or union rep, when they arise, speaking before a safety committee (e.g., Eaton & Nocerino, 2000). Reporting dangerous working conditions to government officials (e.g., Gray, 2002), or offering to teach coworkers safer work techniques (e.g., Andriessen, 1978). Putting into consideration the illustration of employee safety voice with the example above, one can say that employee safety voice can promote communication motivated to change the perception of unsafe working conditions that will affect employees and the organization.

Healthcare Challenges to Employee Safety Voice

Critical upward feedback and employee voice concerning work issues and problems are imperative in the hospital setting, where employees deal with matters of life and death daily (Tucker & Edmondson, 2003). Ramanujam and Rousseau (2006) noted leaders in hospital settings underutilize effective organizational practices such as leadership development, communication, and organizational learning, which contributes to issues with efficiency, safety, and reliability. The hospital environment poses unique industry challenges. Multiple hierarchies of professions, on both the clinical side and the administrative side, make directing and organizing the work challenging (McAlearny, 2006). The core of a hospital's staff consists of professionals who learned socialization elsewhere pre-employment, which leads to the strong professional identification and weak organizational identification (Ramanujam & Rousseau, 2006). Such strong professional identification often results in little unity of purpose (Nembhard et al., 2009). Isaacs (1993) theorized specialists in most fields have difficulty talking across specialties, and the feelings of anomie and self-protection present among healthcare workers are counterproductive, leading to misplaced competitiveness and lack of coordination. The individualistic, hierarchical culture of most hospitals leads to communication and collaboration problems within the workforce (Nembhard et al., 2009). Researchers at the Institute of Medicine (2004) reported leadership in healthcare organizations typically regard staff not as an asset, but as a cost; such dysfunctional work environments have put staff at odds with each other, leading to "record low levels of trust" (p. 823).

Another challenge in the healthcare industry is few healthcare organizations have made substantial investments in developing their leaders (McAlearny, 2006). Weak leaders in the hospital setting often have great difficulty influencing their workforce to gain the necessary

endorsement from potential followers, who are reluctant to support someone from another occupational group (Ramanujam & Rousseau, 2006). Healthcare managers and leaders often do not have the professional credentials of their workers (Nembhard et al., 2009), and a chasm develops between administrators and clinicians (McAlearny, 2006).

Healthcare leaders tend to stress cost efficiencies, while clinical professionals emphasize patient care during their interactions, which fosters the perception that goals are not only separate but also conflicting, leading to further breakdowns in communication and collaboration (Nembhard et al., 2009). Clinical practices in a hospital or home health care facility are subject to simultaneous demands for standardization and flexibility, with excellent micro-systems or units of care existing in otherwise average or substandard hospitals (Ramanujam & Rousseau, 2006). Healthcare workers tend to patch problems quickly because they do not have time to resolve underlying causes of problems arising in daily activities (Tucker & Edmondson, 2003). Due to large numbers of staffing shortages, hospitals have a high reliance on temporary staff, with limited investment in their training, leading to low worker involvement in decision making (Ramanujam & Rousseau, 2006). Ramanujam and Rousseau reported these combined factors lead to fragmented and dynamic internal conditions within workforce rooted in strong professional subcultures reinforcing silence and undermining organizational learning. Researchers at the Institute of Medicine (2004) reported nurses tended to engage in unquestioning compliance with organizational directives because their attempts to question or relay bad news upward in their organizations are met with blame and ridicule. Similarly, Tucker and Edmondson (2003) posited that in most hospitals, organizational culture and management behaviors reinforced individual employee vigilance. Encouraging healthcare professionals to take personal responsibility for solving problems as they arise is an industry norm, and it

reinforces employee independence without considering the impact on the system (Tucker & Edmondson, 2003).

The problem-solving behavior witnessed in the Tucker and Edmondson (2003) study of nurses across multiple hospitals concentrated on the immediate needs of the patients. Nurses rarely assessed or remedied underlying causes, or even reported problems and errors to supervisors. There was also a tendency for individuals to correct others' mistakes quietly, again, without reporting these to the person making a mistake to supervisors. This inability to talk about failures without fear of ridicule or punishment significantly limited the ability to learn from the failures and to prevent future errors (Tucker & Edmondson, 2003). Nembhard and Edmondson (2006) found professional status influences beliefs in the healthcare industry on how easy or appropriate it is to offer ideas or raise safety matters. In this status-conscious environment, employees can miss opportunities for learning and improvement because of unwillingness to engage in quality-improving communication out of fear of reprisal from high-status others (Nembhard & Edmondson, 2006). The official response to performance problems in healthcare organizations is silence, particularly when the individual responsible for the error is from a high-status professional group (Ramanujam & Rousseau, 2006). Although nurses witnessed and experienced a variety of problems and applied many solutions to resolve issues, they did not communicate the issues to others in the hierarchy (Tucker & Edmondson, 2003). The behavior demonstrated how collaborative learning does not occur naturally in healthcare due to the self-censoring of low-status individuals out of fear of negative repercussions of speaking up (Nembhard & Edmondson, 2006).

Edmondson (2003) stressed communication upward, specifically candidly speaking up with opinions and concerns about unsafe conditions, as essential for analyzing causes of

problems and implementing corrective courses of action in the hospital setting. Leaders must create boundary-spanning processes to address chronic and powerful communication barriers between subcultures—about a hospital, between professions and layers in the organizational hierarchy (Schein, 2004). Leaders need to align the diversity of subcultures to overcome problems with integration and coordination (Schein, 2004).

The Lone Worker's Challenge

Lone workers should be on the lookout for potential risks they face and to be compliant with organizational safety guidelines (Accident Analysis & Prevention, 2013). In the face of dangers, if the safety perception places at the highest rank by the company even though they are away from direct supervision, risky situations will have lesser effects. Safety climate can potentially supplement the weaker impact of remote safety supervision for lone workers.
Lone worker situations prove to be challenging because there are almost no observation and real-time feedback about safe and at-risk behaviors of lone workers. The International Data Corporation (IDC) estimates that 1.3 billion people are mobile and lone workers. IDC also predicts that by 2020, 72% of the workforce will be mobile ("Lone Worker - Everbridge," 2017). These mobile workers work alone continuously and at various times throughout the day. The rise of the mobile and lone workforce has brought on new challenges for lone worker safety. However, lone workers have a unique set of risks and hazards that are not always obvious, such as reduced access to communication or difficulty getting an emergency response (Nembhard & Edmondson, 2006).

Considering the rapid change in the economic and technology climate, the prevalence of lone workers in today's workforce, and the different risk causes associated with lone workers. It is essential to use a safety solution that equal to the task. To keep up with today's quick-moving

economy and technology, industries need to employ a safety checking that is scalable and full-proof (Huang et al. 2013).

Lone Workers' Safety Climate/Culture's view

Safety climate is a strong predictor of behavioral safety and occupational injuries, among lone workers given their sometimes risky and lone working conditions (Huang et al., 2013). According to Christian et al. (2009), safety climate perceptions can be categorized into two levels of analysis, namely shared upper-level (e.g., unit, organization) safety climate and individual safety climate. Both levels of safety climate show to be significant predictors of safety outcomes. Climate perceptions refer to the meaning employees attach to management policies, procedures and what has higher priorities. Even though lone workers often work outside direct supervision, they can form opinions of organizational safety values and attitudes through company directives and verbal interactions with their supervisors, thus, significantly reducing occurring accidents or incident while performing specific tasks (Huang et al., 2013).

Specifically, if supervisors devalue an organization's new policies about inclement weather and work schedules for safety and, subsequently, if they are not supportive of their workers' compliance with the policies, the organization's safety efforts will be less effective. Recently, trucking industry-specific (Huang et al., 2013) and utility industry-specific (Huang et al., 2013) safety climate scales for lone mobile workers was developed and validated. Although observations show that truck drivers' safety climate perceptions lacked between-group variance to aggregate individual safety climate perceptions to create upper-level safety climate variables for multi-level analysis, employees' safety climate perceptions significantly predicted safe behaviors and injury outcomes for truck drivers. Moreover, it is common to utilize psychological

level responses to examine the psychometric properties of a safety climate measure such as construct validity or measurement equivalence (Cigularov et al., 2013).

According to Christian et al. (2009), they classified the safety climate into two significant levels, which are analyzed and shared at the local level and individual level safety climate. In their literature summary, Christian et al. (2009) define the psychological safety climate as an individual's perception of the safety practices, policies, and procedures as they relate to safety issues that affect them in their workplace. In shared group level safety, climate comes about when an individual's shares his or her perception and they form a consensus within the work environment (Young, 2010). Safety climate might play a role in accident and illness reporting. Organizational safety climate has been defined as "a unified set of cognitions held by workers regarding the safety aspects of their organization (Young, 2010). Since then, this definition has been refined to indicate that there are several critical dimensions to consider when conceptualizing and measuring safety climate (Young, 2010). These include the extent to which management places a high priority on safety, an environment where there is speaking up the behavior of information regarding safety, the extent to which training is accessible, relevant, and comprehensive, and where safety procedures are perceived to be effective in preventing safety incidents (Probst, 2015). Recent analyses have demonstrated that safety climate is related to workplace accidents and injuries, safety compliance, safety motivation, and safety knowledge (Probst, 2015).

Reasons to expect that organizational safety climate will also be predictive of employee underreporting of workplace safety incidents. First, if there are inadequate or incomplete safety training and communication, employees may not know what constitutes a reportable event or how to report that incident to their organizations. Additionally, if employees think their

managers do not value safety, they may assume that their organizational leaders would prefer not to hear about injuries when they occur. Organizations that dole out rewards and punishments contingent upon safety results rather than safety behaviors may foster safety systems that encourage underreporting (Probst, 2015). Studies of safety climate on lone workers were performed by Zohar and Luria (2015) using a survey that is applied across different industries (Huang et al., 2014). Another research performed to tailor the research findings to the overall view on the safety climate for workers carrying out jobs alone. According to Zohar (2010), the safety climate can be generic across different industries, and but needs to fit specific work conditions. The definition of group safety climate will be the perception of a group of workers 'view on work and the situation' that may affect their ability to perform tasks.

Working Odd Hours

According to a report by NHE (2017), most workers work out of regular hours in isolated environments, which made them more vulnerable to risks. Most lone workers complicate the emergency system do not have a colleague on a site whom they can easily contact in case of an emergency. Another dimension noted to working out of regular hours is the fact that it takes place at night, which even complicates the risk nature of the work environment.

According to Zohar (2010), he points out the fact that also though electric lights make it difficult to distinguish between day and night, there is still something unusual with work life at night, especially for lone workers. Zohar (2010) gives the example of truck drivers that drive at night. Driving at night alone is a risk that subjects the driver to multiple hazards such as, accidents and even robberies that may leave them injured. The other one is the case of police who must patrol streets round the clock routinely. By the fact that they are alone it subjects them to multiple risks of being victims of attack because they are vulnerable subjects.

Mitigating the Risk with Lone Workers

In these days of the Internet, hot desking, and flexible working hours, it is common for workers to have to perform on their own, away from colleagues (Sanderson, 2016). It’s fair to say that most employers will have lone workers (Sanderson, 2016). Understanding the need for lone worker safety will enable employers to carry out risk assessments on each job type and ask lone employees for their input on job conditions and ways to improve (Sanderson, SHP Online | Health and Safety News, Legislation, PPE, Training and CPD, 2016).

Developing a Lone Worker Policy Program

Employers need to have a system that is effective, and functions in minimizing risks to lone workers (Sanderson, "The challenges of managing lone workers," 2016). The safety system such as policy needs to be clear, an easy to understand policy document that sets the requirements for the board, line managers and the lone workers themselves (Sanderson, "The challenges of managing lone workers," 2016). Systems are ‘to the point’ and reviewed yearly. Definitions of risk types include, and all stakeholders genuinely buy into the logic detailed (Sanderson, "The challenges of managing lone workers," 2016).

The policy can include;

- Risk assessments to discover tasks that are safe for lone workers
- Training of lone employees in emergency response.
- Have an emergency or action plan in case of an emergency.
- Set limits for lone working (hours, nature of job, environment).
- Require supervisors to make regular visits to observe the lone employee.
- Ensure two-way open communication between lone workers and supervisors by phone or radio (Sanderson, "2016).

- Use of automatic warning devices that alert others if the lone worker does not check back in an interval.
- Ensure lone workers have returned to fixed base after completing a task.

A useful policy document should recommend the user's view of the risks, using a risk assessment before performing a job task in an environment or location where they may be at risk (Sanderson, 2016). The nature of the risks and the evaluation may differ from employer to employer, but the fundamental principle of not wanting workers to put themselves in harm's way is familiar (Sanderson, 2016). Having lone workers think about risk and provide details of their location, and any risks are vital to ensuring safe working alone (Sanderson, "2016).
Those lone workers who are not assessing risks should be identified and targeted for added training or support (Sanderson, "The challenges of managing lone workers," 2016).

To have an effective lone working policy, both employees and employers inclusive of managers, supervisors, should be able to identify individual and organizational responsibilities. Respective responsibilities need to be defined to ensure a positive impact on potential identification risks, the knowledge, and skill to efficiently implement guidelines on lone working. Management or supervisor responsibilities cover most concerns of the lone employee, which could include:

- Identification of risks or hazards associated with the nature of the job.
- Conduct and document a risk/hazard assessment for the specific type of work or job location relating to lone employees.
- Communicate the results of the risk assessment performed to all affected workers.
- Provide procedures in a lone employee's area of responsibility, to eliminate or minimize identified risks.

- Develop efficient safety systems for a two-way communication for lone workers.
- Determine and document when working alone is permitted and prohibited and ensure this is communicated efficiently to all workers.
- Schedule potentially hazardous jobs at times when supervisors and a second employee can assist.
- Worker responsibilities*:* Workers also have a pivotal role to play in working safely. The dilemma of safety about people's perception often finds unsafe work act as 'rewarding' in some way such as by-passing safety guards on equipment to get the job done faster and cases of PPE not used because it may make them uncomfortable. Whereas 'Safe behavior' is often time wasting, more extended hours to carry out a job. Other responsibilities as listed below:
- Participate in the Lone working risk assessment and risk management decisions with the supervisor.
- Adhere to safe work practices in the detailed safe work procedures.
- Maintain regular communication while working alone.

Deploying an Effective Lone Worker Safety System

The increased number of workers working alone, and with risk, the need for safe operations is vital (Sanderson, 2016). Understanding the risk profile of the employers is critical as many solutions suit those with a specific risk (Sanderson, 2016) a reliable system for those facing verbal or physical misuse from others, or a more robust solution for those with the threat of incapacitation (Sanderson, 2017). Since supervisors cannot be with individual lone workers, more attention should be on keeping lone workers safe. Breaking down protection into common

parts, prevention, and response would better explain the need for safety measures on lone working employees.

Consider protection to consist of two components: prevention and response. Achieving prevention goes by infusing ways in which employees avoid stressful situations in the first place. The response is in the area where preventive means fail. Prevention can also reduce the number of occasions where a lone worker will get into a position, which will result in their harm, ‘reduce’ is different from ‘eliminate,' so there will be a need for response services. Response to prevention in isolation is still insufficient; adding training and management will result in a culture of working safe, which will be "protection”.

Prevention

Preventive methods should start with a well detailed and grounded policy leading to measurable procedures, developed in consultation with lone working employees, managers, and supervisors.

Response

Preventive methods do fail from time to time; an employee will need a valid emergency response.

Training

Training binds prevention and response together. Training can cover these following parts:

- Application of policies and procedures
- Adequate use of Lone Worker Response devices
- Awareness and how to avoid job- hazards.
- Management of hazardous job conditions
- Individual responsibility for personal safety

Management

Proper management must sufficiently balance the organizational needs against the needs of the employee. The organization must protect the structure within its legal limits, its reputation, and effectiveness while protecting the individual employees that work alone in communities' healthcare homes, other workplaces or transit between facilities. A manager with responsibility for safeguarding lone workers needs to consider many factors; among them:

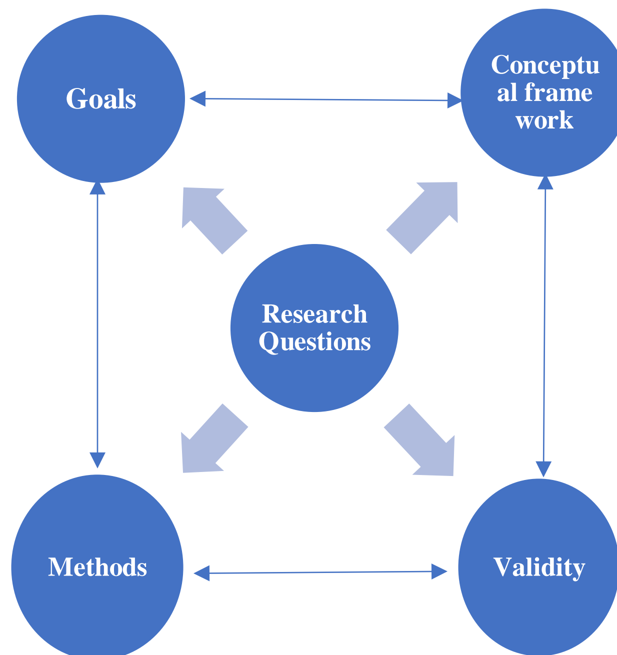
- How to achieve the best protection for both the organization and Lone Workers without jeopardizing the job?
- What is the nature of the task in the facility, and can it be contracted?
- Training and results, how will it be delivered?
- Will lone workers adhere to organizational procedures and will they approve and make use of a lone worker response service?
- Managing contracts and delivery of reports.
- Review Lone workers regularly

CHAPTER 3

METHODOLOGY

The purpose of this research was to establish the risk of lone working in the home healthcare industry and the benefits of effectively using safety voice to identify opportunities for effective intervention, with the goal to retain a satisfied home health clientele. The application of qualitative methods in this study, the Maxwell model (2005) (Figure 4), for qualitative design as a guide for structure and a review process, created a better understanding of the objective of this research. This model of research design has five components, each addressed a different set of issue that was essential to the coherence of the research. Figure 4 shows the research design model utilized for the research.

Figure 4. An Interactive Model of Research Design. A Qualitative Research Design: An Interactive Approach, by J. A. Maxwell, 2005.



A developed semi-structured interview was adopted using the Interpretative Phenomenological Analysis (IPA), based on data from other literature on home healthcare, lone

working risk, and other articles. This approach was appropriate because interviews capture solid information's on the participants' experience, knowledge, ideas, and impressions (Alvesson, 1996). The research also aims at assessing the safety priorities and perception of lone workers. It provides a closer view of employee safety voice at the staff and organizational levels respectively.

The analysis process of IPA is not just a one-step process, it should comprise of the following steps: shared unique information to an individual, which is shared amongst other participants; transition from a narrative of the individuals' experience to a solid interpretation of that experience; adequate commitment to understanding the experience that was shared by the participant; and creating reasonable meaning to these experiences within the research context (Cooper et al., 2012).

In IPA studies, participants are seen to be experts on the subject, and accordingly the scheduled interview consisting of pre-work and interactive session to allow ample time for each participant to share experiences or comments on the study, to produce rich data. All the interviewees gave freely of their time in the interest of providing a complete a picture as possible. IPA is a qualitative methodology that does without the behaviorist methodology of examining people and instead focuses on first-person accounts to determine the meaning of an individual's experience. Researchers employing IPA can examine an individual's view of the world and successfully learn how that person understands his or her experience. These insights have proven beneficial for policymaking (Smith et al., 2009). The applied methodology, emphasizes the objective analysis of this study and the utilization of on-line surveys and phone interviews, allows an expanded knowledge on the safety concerns of working alone.

In IPA studies, the number of participants vary from one to thirty. Using this method, small sample sizes are normal in IPA as the analysis of larger data sets could result in the loss of 'potentially subtle inflections of meaning' and a consensus towards the use of smaller sample sizes seems to be rising profoundly. This research will encompass the use of both online surveys and phone interviews, online survey containing 10 questions and phone interview 9 questions, keeping it concise and targeted to themes of the research questions.

Participant Recruitment

A total of 25 participants were initially recruited for the research, 17 followed through with the project. An email containing the recruitment and consent letter (see Appendices 2 and 3, respectively) was sent to each participant, from the researcher. The recruitment and consent letter were approved by the East Carolina University and Medical Center Institutional Review Board (UMCIRB) (see Appendix 1). Ten participants responded within a week of receiving the email and agreed to participate in the research after careful understanding of the letters. Seven other participants to be recruited, responded two weeks after the email was distributed and joined the study. Eight participants did not respond to the email. This produced a response rate of 68% of the total candidates recruited for the research. Each candidate was interviewed over the phone for Fifteen minutes discussing in brief, the interview questions and sent a link with survey questions, pending their agreement to take part of the survey.

Data Collection / Analysis

The obtained data used in this study were collected by the researcher using a well-structured phone interview and survey questions with the selected participants and the detailed interview questions were provided to understand and visualize given responses on the subject matter. Data was obtained with the use of a hand-held mobile device (cellphone) equipped with a voice

recorder and was transcribed verbatim, into rich information that gives answers to the questions asked of the participants. During the interview and throughout the review process the researcher took detailed notes of observations that arose. Following Groenewald's (2004) approach to field notes, four types of notes were made:

- Observational- What occurred from their responses (experiential events), making sense of the responses to each question.
- Theoretical- The researcher reflected on each response to better understand from each participant view, their experiences in the home health care profession.
- Methodological- The researcher remembered to critique self, based off the facts of IPA studies, which strictly relied on the responses of participants, removing bias from the researcher.
- Analytical- A review of the progress of the study was conducted by the researcher, this helped in identifying areas of weaknesses and strength as the study progressed.

To answer the research questions, the primary data generated from the interviews, was processed and analyzed with the use of QDA Miner manufactured by Provalis Research, Montreal, Canada. As stated previously, the result of the thematic analysis emphasized the most prominent characteristics and meanings contained in the data. With the use of QDA software for qualitative analysis, data was collected and coded, the transcript data resulted in 104 identified excerpts, 12 codes, and 32 sub-codes. To reduce the data, the researcher went over the transcripts to pick supporting themes to the selected interview question and regrouped the material. Some of the data was re-coded in order to more useful information utilized in this study. Table 6 on page 67 shows the refined data outlining themes and categories extracted from the interview transcripts. Resulting

themes were identified using the IPA analysis; the hermeneutic, phenomenology and experiential structure, such as Perception of the Job, personal experiences, and training for home HHCW's, etc. 10 survey questions, focused on demographics and work information, were responded to at a rate of 68%, raw data responses (shown in Appendix 8) from the survey responses were simplified by utilizing a table to better reveal the results of the survey. These results strengthen the concepts of IPA studies, in gaining adequate knowledge to the context of the research. Table 1 on p.50, shows the demographic and work information of the participants for the research.

Due to the nature and sensitivity of this research, all due process was adhered to protect the participants from any form of violation. Thus, a thorough review of this research was conducted by the Institutional Review Board (IRB) at East Carolina University prior to selecting suitable candidates for this study. Upon each participant's response to the research, survey/interview questions were sent to them by email. Transcriptions were recorded and analyzed for overall themes that reoccurred during the interviews. Survey questions were set up and created using the Qualtrics Analytics software acquired through East Carolina University online platform.

Interview and Survey Questions

As discussed in the early stage of the literature, the need for identifying and mitigating lone workers risks will help minimize the dangers these employees encounter while performing tasks in remote vicinities without immediate assistance. Developing this survey helped raise awareness of the issues, risks and concerns of lone workers worldwide. Safety in any organization is paramount; proactive endeavors and a work environment where lone employees contribute to process improvement becomes the norm.

As this research is exploratory, the interview questions were developed as guide for the interview, and the participants were encouraged to engage in a discussion to better understand the challenges lone employees' experience. A follow up of survey questions was sent to willing candidates for statistical data. The modified questionnaire was extracted from a lone worker safety survey and the Royal College of Nursing (RCN) survey both done in the United Kingdom (UK) (2007). This illustrative survey aimed to describe the respondents, their working patterns, their experiences of lone working, and their perceptions of the associated risks. The following open-ended questions provided to the participants will provide a large spectrum to demonstrate the efficacy of understanding when a lone worker is at risk.

Interview questions covered major occupational group, lone worker perception, risk assessment, safety training and tools provided to keep workers safe (see Appendix 5 for the list of interview questions). While, the survey questions covered demographics information, type of work and location, training, emergency system, etc. (see Appendix 6 for the list of survey questions).

Validity

An Interpretational phenomenological approach rejects the idea of scientific realism, and so validity in this study was obtained through repeated re-examination of the survey results and transcribed interview responses, that produced themes from the open-ended questions that were based on the foundation of this analysis. IPA does not achieve validity by bracketing. Instead, Smith (2009) presented a criterion for a good IPA paper and those standards were applied:

- Clearly subscribes to the theoretical principles of IPA: it is phenomenological and hermeneutic.
- Sufficiently transparent so reader can see what was done

- Coherent, plausible analysis
- Adequate sampling from sample population, to show density of evidence for each theme

In this study, the phenomenological research design contributed toward truth of this study. The researcher was bracketed consciously in order to understand, in terms of the perspectives of the participants interviewed the phenomenon that was studied. Audio recordings of the interview were listened to repeatedly, to become familiar with the words of the participant in order to develop a holistic sense, the 'gestalt' of the research problem, (Holloway, 1997). This was an opening and a deliberate act by the researcher to fully be immersed in knowledge from the responses alone to remove any form of bias from the researcher. Thus, the researcher aimed to enter the world of the participants, using simple open-ended questions rather than investigate it; being guided and led by the survey question responses to to better understand from their perspective, the subject matter.

CHAPTER 4

RESULTS

Participant Demographic Information

Table 1 summarizes the demographic information of the survey study participants. Majority (66.7%) of the participants were male, and 66.6% were age 35 years and older; 44.4% equal number of workers work in both city and rural parts. Seventeen of the interviewees who fully participated and worked as home health nurses were either certified nursing assistants, occupational therapists, certified occupational therapist or physical therapist, who all acknowledged the fact that there are risks home nurses face while on the job. A total of 9 of 17 study participants responded to the survey link and agreed to participate in survey provided by the researcher, while 8 participants did not proceed with the survey but the interview process only.

Table 1.Demographic and Work Information of Study Participants (n = 9)

Demographic Variable		**Number (n)**	**Percentage (%)**
Age	18 – 24	1	11.1
	25 – 34	2	22.2
	35 - 44	3	33.3
	45 - 54	2	22.2
	55 - 64	1	11.1
Gender	Male	6	66.7
	Female	3	33.3
Work Environment	City/ Suburban	4	44.4
	County Rural	4	44.4
	Other	1	11.1
	< 1 year	1	11.1

Work Experience	1 – 2 years	2	22.2
	3 – 5 years	0	0
	6 – 10 years	3	33.3
	> 10 years	3	33.3
Employment Category	Full Time > 20 hours	5	55.6
	Part time < 20 hours	3	33.3
	Normal Office hours	1	11.1
Risk Assessment	Yes	6	66.7
	Maybe	1	11.1
	No	2	22.2
Job/task Location – Employer/ supervisor know the employee location	Probably yes	4	44.4
	Probably not	1	11.1
	Definitely yes	2	22.2
	Definitely not	2	22.2
Safety Awareness-client behavior	Extremely comfortable	0	0
	Moderately comfortable	1	11.1
	Slightly comfortable	2	22.2
	Neither comfortable nor uncomfortable	3	33.3
	Slightly uncomfortable	2	22.2
	Moderately uncomfortable	1	11.1
	Extremely uncomfortable	0	0
Worker Training	Yes	5	55.6
	Maybe	0	0
	No	4	44.4

Interview Response Emerging Themes

Respondents #	Profession	Experience
1	Physical Therapist	12 Years
2	Physical Therapist	13 Years
3	Occupational Therapist	5 Months
4	Physical Therapist	10 Years
5	Home Nurse	6 Years
6	Health and Wellness manager	17 Years
7	Home Nurse + CEO	28 Years
8	Occupational Therapist	_
9	Certified Nursing Ass.	8 Years
10	Home Health Nurse assistant	3 Years
11	Certified O.T	3 Years
12	Home Nurse	15 Years
13	Home Nurse	10 Years
14	Home Nurse	_
15	Home Nurse	5 Years
16	Nursing Assistant	11 Years
17	Home Nurse	30 Years

Table 2 summarizes the profession of each participant as well as years of experience in the home health care industry.

Table 2.Participant profession and years of experience (n = 17)

Sample Description

Structured interviews were conducted with a sample N=17. The present sample exhibits a variety of professions throughout the industry as well different levels of experience ranging from few months to up to three decades. The variety assisted the researcher to generate insightful data to support the present investigation. The data generated through the structured interviews, aimed at understanding the risks and challenges lone workers face, the perception of the target population

concerning their job, procedures and organizational processes integrated and recommendation to cope with safety issues. Emerged themes and categories were thoroughly discussed below.

Lone Worker Perception

The first interview question aimed at understanding the perception of the participants concerning the lone work and the characteristics of the work environment which promotes the safety of lone workers. Participants were asked the following questions:

Question 1: What is your perception of lone working in this industry and are there adequate procedures to aid the safety or safe working practices of lone employees?

The analysis of data resulted in the emergence of a theme defined as "Perception". The latter theme described various ways on how individuals perceive their work. The first category which was identified under such theme was the lack of safety.

- Respondent #1: **My perception for working along, has its ties with ones' experience. If the individual isn't experienced in this field of work, it could be a real frightening ordeal. Especially, going to places you have never been or know.**
- Respondent #2: "**I feel there isn't enough safety measures to protect us workers in the Home Health care industry.**"
- Respondent #3: **There isn't enough safe working practices or ways to protect workers in this field. It is more of an alone situation in these cases.**"
- Respondent #4: **Play it safe while you work. No job is free of risk or hazards,**
- Respondent #6: **The risks most times overshadow the safety measures put in place, and that indicates that there aren't always enough safety guidelines put out for us.**

- Respondent #9: **There is adequate safety measures taken to ensure we are safe when out in the field. I do enjoy working alone.**
- Respondent #10: **My perception on working alone in this industry is that is good if you are experienced in this field.**
- Respondent #11: **Working alone is a risk on its own. Our field exposes us to numerous hazards, such as the location of the patient's home, the mental state of the patient, those in the surrounding area, the nature of the neighborhood (some could be violent), there are so many factors that put us at risk, and It is a major concern to we lone workers.**
- Respondent #13: **There are cases of home nurses that end up being subjected to violent situations at client's homes. Having protective and preventive measures keep the nurse safe from major risks on the job.**
- Respondent #15: **I have never had issues working this job, my experiences have been totally good. It isn't a job for everyone, that I can say.**
- Respondent #17: **A very challenging career, with a lot of characters (the patients). You get to meet different people in this job, so being aware that your protection is or has been covered by the employer, will you give more confidence to accept patients.**

Respondents # 2, #3, #4, #11, and #14 expressed the same concern concerning the lack of safety practices and measures in the field. The participant claims described the nature of the work as risky, challenging, full of hazards, and nested with difficulties and danger. Participants perceive the work as lacking safety and asserted that safety measures are important and critical to them. On the other hand, Respondents # 9, and 15 respectively asserted that they perceive the lone work as good and they expressed their satisfaction concerning the safety measures provided. In addition,

Respondent # 1 asserted the importance of experience of the job to keep the lone worker safe.

Question 2: What is the perception of working alone in this industry and are there adequate procedures to aid the safety or safe working practices of lone employees?

Procedures to cope with safety issues

Participants #7, #9, #12 and #13 have asserted on the importance of the safety measures which need to be implemented in order to keep workers safe. These four participants share the common theme of employers implementing and enforcing safe measures for home health nurses. Almost all participants, emphasized on such measures that are critical to keeping them safe.

Safety Guidelines

- Respondent #4**: I know there are safety guidelines available for us to follow, which informs you on how to access a home before you throw yourself in and always perform your duties with a third eye that constantly keeps watch of your surroundings…more needs to be done by management to ensure the well-being of their staff.**
- Respondent #7: **This is the core reason why I branched out into my own establishment. I have safety rules and safety measures that are used to ensure my workers are not exposed to any form of unsafe work situations.**
- Respondent #9: **There is adequate safety measures taken to ensure we are safe when out in the field.**

- Respondent #12: **This job has opened my eyes to a lot of experiences in both unsafe and good moments. There are adequate measures to protect nurses who work at home and I have taken advantage of these safety measures.**
- Respondent #13: **Having protective and preventive measures keep the nurse safe from major risks on the job.**

Intuition and Personal Evaluation

Participants #3 and #16 specifically revert to intuition and personal evaluation to cope with safety issues, in relation to perception of working alone. Participant #3 makes mention of safety measures but also indicates its insufficiency in the industry.

- Respondent #3: **There isn't enough safe working practices or ways to protect workers in the in this industry. It is more of an alone situation in these cases. You must use your intuition to decide if the environment is safe or not for you to perform your duties.**
- Respondent #16: **Always evaluate your work environment before you commence on a job.**

Management Interventions

The participants #4, #17, #15 and #7 did assert the importance of the management interventions to ensure the safety of the lone workers. Henceforth, a category of management interventions under the theme of coping procedures has emerged. Various ways where expressed such as the technical devices needed or approaches such as background checks of clients, vetoing, and employee training to ensure the safety of the lone workers.

- Respondent #4: **I know there are safety guidelines available for us to adhere to, which informs you on how to access a home before you throw yourself in and always perform**

your duties with a third eye that constantly keeps watch of your surroundings. Although, more needs to be done by management to ensure the well-being of their staff.

- Respondent #17: **A very challenging career, with lots of characters. You get to meet different individuals (patients), being aware that your protection is or has been covered by the employer, will you give more confidence to accept patients.**
- Respondent #15: **I strongly advice proper vetoing of client before sending out a nurse to perform their duties as a nurse.**
- Respondent #7 : **The incorporation of tracking devices and portable alarm systems for my employees became a priority for me, just to make sure my staff on the field is as safe as they can be. I know more can be done to protect those who work alone, not just in the Home Health care industry.**

Question 3: Do you assess the risks each time you visit a client, patient or commence your task alone, and do you feel you informed of any risk before visiting a client while working alone?

Work Environment Assessment

The responses summarize the themes identified as work environment assessment by participants #1, #4, #5,and #16.

- Respondent #1**: I always ensure I have a self – assessment of the environment before I commence any task**
- Respondent #4: **It is all a personal evaluation of the environment.**

- Respondent #5: **Risk assessment is a personal. You must think about your safety for every job you take on.**
- Respondent #16: **Always evaluate your work environment before you commence on a job. A good job if you know the keyways to keep yourself protected.**

Pre – Job Information or details

Participants #1, #2, #3, #4, #5, #6, and #14 expressed the fact that their company do not provide any information about the working environment or the job they are taking. Henceforth, the participants must personally assess the working environment.

- Respondent #1: **Not all the time but I always ensure I have a self – assessment of the environment before I commence any task. I am not informed of any risk before visiting clients.**
- Respondent #2: **Not always but I am very careful on every job.**
- Respondent #3**: No evaluation is done before I commence any task at a home, and I am not informed of risks**
- Respondent #4: **No, no evaluation is performed, it is all a personal evaluation of the environment.**
- Respondent #5: **Risk assessment is a personal. You must think about your safety for every job you take on. Just the use of personal assessment on every job.**
- Respondent #6: **Most facilities in the home health care industry do not give a thorough evaluation of the risks we the workers could face in such places… It is a self-analysis of the patient's home.**

- Respondent # 14: **We don't have in-depth client evaluations before jobs, just the basic be alert.**

Question 4: Do you receive lone worker safety training and how effective is it?

Safety Training

In responding to question 4, 9 participants indicated they have either not received or had ineffective training in this field, resulting in a 53% outcome of "not received and ineffective safety training" out of the total number of participants (17), which is relatively high when looking at the number of participants.

Not received and Ineffective

The participants have expressed that they did not receive safety trainings from their organizations, or they have received few ones that they feel either not effective for all situations or insufficient.

- Respondent #1: **Occasionally we do have safety training. It does need to be performed quarterly though. This is my thought, because of the jobs we handle. Personally, it will be effective if it is done as much as I suggest.**
- Respondent #2: **Not always. There are moments the safety training comes in handy and some where it is useless. These are the uncertainties we must deal with; the safety training doesn't cover a large area of possibilities and still puts us at risk.**
- Respondent #3: **I haven't received safety training on this job, but I have had other safety training classes outside the job, and I use that knowledge to keep me safe.**
- Respondent #4: **No, I do not get safety training frequently.**

- Respondent #10: **There is safety training, but I feel it isn't enough.**
- Respondent #11: **No, I have not received lone worker safety training.**
- Respondent #14**: Honestly, I have not had a training of any kind.**
- Respondent #16**: No lone worker safety training.**
- Respondent #17: **I have received lone worker training, but it doesn't really feel like it works all the time.**

Received and Effective

The 5 participants below, #6, #9, #12, #13, and #15, expressed they have had safety training and it has been effective. With a 30% outcome of the total participants (17), who have received training and effectively utilized it.

Participants have asserted that their organizations provided them with safety trainings which was effective and helped them to cope with safety issues encountered during their work.

- Respondent #6: **I have received lone worker safety training. It has been very helpful in some situations for me. I took a self-defense class, for moments where I find myself in need of getting away quickly.**
- Respondent #9: **Yes, I have received lone worker safety training and it is effective where it needs to be.**
- Respondent #12**: I have received lone worker training and it sure is effective.**
- Respondent #13**: We do have safety training readily available for nurses who work alone and it efficient.**

  Respondent #15**: I have been through lone worker safety training which has been very helpful.**

Question 5: What percentage of your time do you spend working alone and do you have easy accessibility to help when needed?

Work Alone time

Table 3 shows the percentage of participants work time, both 11 full time and 6 part time workers of 17 total participants.

Table 3. Frequency of lone working among 17 participants

Participant (n= 17)	Work Alone Time	Frequency
11 Participants	Full Shift	64.7%
6 Participants	Part Time	35.3%

Access to "help" in Emergencies

Table 4 shows the frequency of 17 participants that have access to help in emergencies provided by the employer or supervisor and those without access to help in emergencies.

Table 4. Frequency of access to help or emergency services when needed.

Participant (n=17)	Assistance	Frequency
7 Participants	Provided	43.75%
9 Participants	Not Provided	56.25%

Not Provided

Participants #1, #2, #4, #10, #11, #12, #15, #16 and #17 have expressed throughout the responses below, that they are not provided emergency assistance and help when conducting their duties.

Although, there are generally provided services such as 911 and personal alert systems available for use.

- Respondent #1: **No, I don't always have easy access to help because my job takes me to some areas with poor network reception.**
- Respondent #2: **Not always.**
- Respondent #4: **I don't always have access to help when needed. If I do find myself in a bind, 911 is always my go to.**
- Respondent #10: **No, there isn't immediate assistance when needed. I work and travel 40% of the time.**
- Respondent #11: **911 Is my emergency number if anything goes wrong at a clients' home.**
- Respondent #12 **: Not Always.**
- Respondent #15**: I work full time and the only direct help line is 911 for me.**
- Respondent #16**: Not all the time.**
- Respondent #17**: Yes and No. immediate assistance can be far stretched sometimes, it works if the situation doesn't escalate fast.**

Provided

Participants #3, #5, #6, #7, #9, #13, and #14 have expressed throughout the responses below, that they are provided emergency service and have access to help when needed.

- Respondent #3: **I do have access to help when needed, management keeps constant check on those on the field.**
- Respondent #5: **Yes, I do have access to assistance if needed.**

- Respondent #6: **I certainly do have direct line to our emergency service and 911. It has helped me in a Past situation.**
- Respondent #7: **Yes, my staff has direct and easy access to assistance when its needed.**
- Respondent #9 : **Yes, and work full time.**
- Respondent #13**: Yes, I do have access to help**
- Respondent #14**: I work full time, twelve-hour shift. Yes, there is easy access to help when needed.**

Question 6: What tools and processes are provided to ensure your employees' safety while working alone? Are they viable? What is your take on safety voice (the act of speaking up on safety concerns to colleagues or management) will it be effective in mitigating risk to lone workers in the home healthcare sector?

Tools and Processes for Employee Safety

Technical Tools

Most of the participants interviewed have acknowledged that they integrate technical tools to help them cope with safety issues such as tracking devices and personal devices. On the other hand, few of them have claimed that their organizations do not provide them with any tools, and they believe that such tools could be helpful. One way that helped one participant who is not provided with any device to cope with safety issues was word of mouth. Participants #1, #2, #3, #5, #6, #7, #9, #12, #13, and #14 indicated the availability of technical tools or devices that are issued to them, participants #1 and #13 have one thing in common, which Is the fact that they acknowledge there aren't technical tools or devices issued to them, but are aware of other home health agencies that

implement the use of those tools. Participant #6, sheds a different kind of light on the use of these tools in real life situation, stating they may not be useful in case of being attacked or assaulted.

- Respondent #1: **There's really none. I am aware some agencies equip their staff with mobile tracking devices and alert systems that requests help.**
- Respondent #2: **We don't have any available, just word of mouth on what to do and what not to do.**
- Respondent #3: **I feel the use of tracking devices will be helpful while working. But it does have some unethical concerns especially when the employer uses it to track staff off the clock. Currently, there is none available to me.**
- Respondent #5: **Yes, I have safety tools available for work.**
- Respondent #6: **There should be tools available to us on the field but, there isn't any that could protect us from immediate harm if there is moment like that. The tools provided only track and send out emergency alert when in trouble, but will it save you from being attacked on the spot, no!**
- Respondent #7: **I ensure my staff all have devices that could prevent them from nasty situations. My employees are safe app hubs equipped on their cell phones or company phones provided, wearable SOS button, which is very discrete, SOS fob and the traditional protect me device (personal tracking device).**
- Respondent #9: **We do have safety devices available. Yes, I strongly believe it will do a lot of good to us lone employees,**
- Respondent #12: **We do have safety devices available**
- Respondent #13: **I am not aware of any devices available, I mean I'm old school, so I just go with my guts**

- Respondent #14: **Yes, there are available safety devices for us. I use a personal device too that can alert 911 and my employer.**
- Respondent #17: **Yes, we do, and it works.**

Safety Voice

Participants #1, #2, #3, #5, #6, #7, #9, #12, #13, and #15 have asserted that safety voice is important and helpful to mitigate the risks that come along lone working. All participants encouraged speaking up practices and believe it to be helpful and worth trying to prevent and mitigate risks related to their work. The major hindrance which was inferred upon the analysis of the answers was that management do not encourage safety voice and they hinder it as the participants become fearful of losing the jobs. Besides, only one participant #7 asserted that safety voice exists within their organizational practices.

- Respondent #1: **A major factor that hinders safety voice will be management. These communicated concerns are sometimes brushed off as just part of the job or it becomes a financial debate in mitigating that risk or hazard. A great example, the supply of mobile devices and personal alert system, complete evaluation of the job site before sending out staff to work. It costs money, which could be case of "the management will review it and get back to you". In my opinion, safety voice helps keep employees aware of possible risks on certain clients with a negative history or events that happen on the job.**
- Respondent #2: **I believe speaking up behaviors goes a long way, my orientation on a previous job was basically colleagues informing me about a client that has a history of violence and the management still sends staff out there.**

- Respondent #3: **I was given a heads up prior to the job which gave me a sense of what clients I feel comfortable with or not. It has its advantages and disadvantages, it could be helpful if employees are certain that what they communicate to management or other employees, wouldn't get them in trouble or fired.**
- Respondent #5 **I would encourage speaking up practices. You can save a life no matter how little that information is.**
- Respondent #6: **Safety voice!! It's not a common practice amongst my team, but it would be something worth trying.**
- Respondent #7: **I hold interactive sessions with my staff, to bring up ideas on how and what could be done to improve or perfect the safety of every one of us. It is a great experience because you find out things that aren't being told to you or reported. It may seem inconsequential, but it could result to something bigger if left unattended.**
- Respondent #9: **An open discussion among staff should be allowed to exchange ideas and situations faced at the clients' home, good or bad situations, without the fear of losing employment.**
- Respondent #10: **There is none. I wouldn't speak much about that due to some management constraints, but I know of individuals the speaking up behavior has helped.**
- Respondent #11: **No. I doubt that will fly with management, but it should be encouraged.**
- Respondent #12: **I strongly believe speaking up behaviors can help create lone worker awareness on risk and hazards.**

- Respondent #13: **Talking about safety concerns, that's what you mean by speaking up behaviors right? I will encourage that totally.**
- Respondent #15 **I think speaking up behavior can be a useful tool and it will be efficient if practiced.**

  Question7: Have you experienced the following as a lone worker, physical attack or assault, threatening behavior, verbal abuse, accident or medical emergency and stalking?

Personal Experiences

Throughout the analysis of the responses, participants have claimed to have experienced physical attacks, harassments, and verbal abuse. Table 5 highlights the frequency of the participants who have experienced threatening situations:

Table 5. Frequency of exposure to threats or assault at work.

Participant (n)	**Threatening event**	**Frequency**
7 Participants	Experienced	43.75%
9 Participants	Not Experienced	56.25%

Physical Attacks

- Respondent #1: **No, I have not but I was close to being attacked physically.**
- Respondent #7: **My previous years of working as a Home Health Nurse, I was attacked physically and had a medical emergency on one of the jobs. I was pregnant at the time and had real bad contractions, but it was just the stress of the job**
- Respondent #11: **Yes, I have, and I don't want to remember the experience.**
- Respondent #14: **Yes, I have.**

Harassment

- Respondent #13: **I have had several harassments but no physical attacks. They were scary moments.**

Verbal Abuse

- Respondent #14: **Yes, I have. I have been shoved by a member of the home I worked at and verbally abused also.**
- Respondent #16: **Just verbal abuse.**

Question 8: What are your thoughts on lone working in the home-health care industry and what would you suggest, improving lone working in this field and other lone worker in various industries?

Participants #1, #2, #5, #10, #12, #16 recommend lone workers assess their working environment and the clients prior to a visit to client location. In addition, there was a strong emphasis on establishing and nurturing the culture of safety within the organization. Finally, participants have recommended the encouraging of safety voice and the integration of safety equipment for the lone workers to practice their duties in a safe and riskless environment. The revealing themes from the responses are risk assessment, safety culture, and safety devices.

Risk Assessment

- Respondent #1: **I will always say, you do have to evaluate where you are assigned to even if it has been done by management. You are the one in that environment and not the management, one needs to be extremely cautious. Some places are good while others aren't.**

- Respondent #2: **I recommend mental surveys of clients which isn't done, evaluation the home environment before getting there, and evaluating external factors, social and economic factors**
- Respondent #5: **I would recommend better security alert for the employees, assessment for environments and constant observation.**
- Respondent #10: **Self-awareness of surroundings, you don't want to go out there and be ignorant of what is going on around.**
- Respondent #12: **It is advisable to always ask major questions about the client before you take on the job.**
- Respondent #16: **Be aware of your surroundings especially at clients' homes.**

Safety Culture

- Respondent #5: **I would recommend better security alert for the employees, assessment for environments and constant observation.**
- Respondent #6: **Working alone in the home health is a whole world entirely, vast areas of concerns but we always prevail because we are tough to take on such jobs. I do believe if we all can imbibe a good safety culture and practice it.**
- Respondent #7: **A good safety culture in any establishment brings about safe practices. Lone workers generally have constant fear of the unknown but an organization that puts their safety first will have solid productivity from its staff.**
- Respondent #10: **key words, safety culture, safe practices, quick safe thinking and evaluation… Always be on your toes and perform your duties as you should. If you feel unsafe, politely take your leave and report to the management.**

- Respondent #13: **Live by an outstanding safety culture, always playing it close to the vest when taking on a job**
- Respondent #14: **Work safe no matter where you are.**

Safety Devices

- Respondent #11: **Always, go with those safety devices. You never know when it will come in handy.**
- Respondent #17: **I use the personal safety equipment while working on the field. It keeps me in touch with my employer and emergency services.**

Table 6 highlights the emerged themes from the interview responses, producing a clear view of workers perception, training, safety tools and personal experiences. A detailed summary is below.

Table 6. Summary of emergent themes and major categories of which were explained in the previous section.

Themes	**Categories**
Perception of the Job	• Experience is needed • Lack of Safety • Lack of Safety Guidelines/ Policies • Positive Perception • Negative Perception • Work Challenges
Procedures To cope with Safety Issues	• Intuition

	• Safety Guidelines • Management Intervention • Tracking Device • Portable alarm systems • Personal Worn environment Assessment • Training • Risk assessment • Background Checks of clients
Source of Information about the job	• Not Provided • Personal Risk Assessment • Lone Worker Safety Training
Safety Training	• Lack of Safety Training • Safety Trainings are not always Effective • Self-Defense Training • Safety Training is provided
Lone Work Time	• Part-Time • Full time
Access To help	• Provided • Not Provided
Tools and Processes of Employee Safety	• Technical Tools and devices • Absence of tools and Processes • Word of Mouth
Safety voice	• Availability • Hindrances
Personal Experiences	• Physical Attack • Stressful Job • Harassment • Verbal Abuse

Recommendations	• Personal Assessment • Psychometric Assessment • Internal and external evaluations • Security alerts • Safety Culture • Safety Voice • Safety devices and systems

CHAPTER 5

DISCUSSION

Unpredictable working environments, overinvestment in care beyond roles, and delegation of duties have led to differences in the tasks performed by HHCWs and their associated risks. Lone working during high- risk job duties presents an unacceptable risk level to workers. Employers and professionals shouldn't wait for full regulatory action by OSHA to protect affected employers. Rather, assessment of hazards involving lone working and reduce the related risk by implementing risk controls and working alone safety programs planned by the employers. HHCWs are critical members of integrative home care teams that improve the quality of client care (Stone and Bryant, 2011); often those who spend, the greatest amount of time with a client and therefore has much information to share with the team.

Past studies have identified specific situations where risk exposures during home visits may be greater. These include: patients with dementia (Fitzwater & Gates, 2000; Sharipova et al., 2008; Galinsky et al., 2010; Nakaishi et al., 2013; Markkanen et al., 2014), dysfunctional family relationships (Brill-Hart et al., 2004; Markkanen et al. 2007), or when drugs or alcohol are involved (Fitzwater & Gates, 2000, Brillhart et al., 2004). HHCWs organizations can support staff safety by developing policies and providing training for staff entering patient homes to assess, recognize and prevent violence in patient homes (Markkanen et al., 2014; Hanson et al., 2015). Strategies may include the use of risk-assessment tools (Brennan2010), conflict resolution and de-escalation training and supporting staff decisions to refuse to enter patient homes deemed to be a threat to their personal safety (Fitzwater & Gates, 2000; Sylvester & Reisener 2002; Gershon et al., 2008a; Henriksen et al., 2008; Galligan et al., 2015). Table 6 above, revealed refined themes observed from the responses, each theme and category were used effectively as

explained in the result section, to show each participant's view on the what the study aimed to achieve.

The question about the perception of lone working resulted in mixed responses, some participants related their perception of working alone and its risks to experiences on the job. Six of the participants voiced out the insufficient safety procedures or safe working practices to protect nurses who work alone in client locations, while others indicated there are adequate safe work practices for home health nurses. In the survey questions, the participants who worked in the city/suburbs showed from their experiences with working in the city has exposed them to fewer confrontations or unsafe situations, although they are still exposed to job-related violence. The second research question revealed ways healthcare organizations and employees can mitigate and identify the risks to lone workers in the field from the participants' responses. Risk assessment was a key referral in this study, use of devices such as personal alarms, and training on what to do in unsafe situations. Some participants made it known that they had no training prior to the job and suggested the need for training. The term ''gut feeling'' was used by most of the participants, which was strongly attached to experience on the job. This personal tool gives the worker a sense of what is right or not at a client's home.

Participant #7, who runs a home health agency, shed more light on what can be done to improve the safety measures needed by the employees who work alone. Risk assessment is a vital part of any job to be performed as mentioned by all interviewed participant. Assessing the risk can help Identify the possible dangers of a job, suggest safe work practices and elimination of risk and hazards. Most participants in this study, signified the absence of risk assessment done by the employer. It all comes down to the employee, making use of self-learned skills to assess the work environment. Participant #11 makes it known that working alone is poses a risk and

employees who work alone can be met with unfavorable factors while performing their duties. Taking a few steps back into this research, to successfully develop and implement a lone worker safety program, risk assessment is critical to the success of the program that protects lone workers. Safety training given to home health nurses shouldn't fall short of its essence, seven respondents, mentioned no safety training is done by the employer, ten other respondents have had some training but indicates there needs to be improvement to protect workers. The importance of risk prevention, such as double-checking all safety needs and prioritization of safety over other competing organizational demands can be communicated to those who have placed these as low company priorities.

Home visits are another potentially dangerous situation for practice nurses, particularly when they are visiting high-risk areas or locations, and it is here that modern technology in the form of personal safety alarms should be made available. Many of these devices now incorporate global satellite positioning to track exactly where individuals are and to get help to them as quickly as possible if necessary. Other mobile phone-based systems can incorporate an alert 'call back' function, which automatically rings pre-arranged locations at regular intervals should the individual not report back to base following a home visit or other lone working duty. The threats posed to the safety of all lone workers should not be ignored, particularly now that effective safety devices are readily available. Lone workers in the home health industry, who use this type of technology generally feel 'better valued as employees' because of being provided with a more reliable way of obtaining assistance. Risk managers often notice that staff then become more confident about working alone - and are more likely to adhere to the organization's lone worker policy. HHCWs have a duty of care to patients, sometimes providing this care means home visits or facilities where the patients are. It is important to ensure the safety of these home aides while

performing their duties, without fear of being harmed or possibly worse. Lone workers should be at no greater risk of injuries when compared to those in the clinic or hospital settings, which is fundamental to lone working.

Participant #7, who owns a home health care agency, clearly states all that is done by management to constantly protect its workers from such attacks either verbally or physically. These are made possible by training, open communication between workers and management, which is a highlight of the effectiveness of safety voice as stated in the literature. Also, the provision of portable protective devices that can alert emergency services when in need may be very helpful because it could either be an attack on the worker or cases where the client or worker has a major health emergency. A noteworthy tool that was mentioned by a good number of the participants is the use of ‘gut feeling’, otherwise known as intuition. While it is often difficult to articulate or identify exactly what is meant by these terms, there are occasions when, despite all appearing right, something tells us not all is right with this environment. This feeling should not be ignored, it should be aligned with assessing the risk each time a visit to a client’s home is needed. The key points from the interview and survey responses shows the need for home health care organizations to improve on risk assessment which is key for any organization, the need for training employees on what to do in emergency situations, encouraging open channel communications between staff and management to share their concerns or experiences at a given clients’ home. The limitations of this study were largely based on the unavailability of acquiring more home health nurses to expand the study, but the number of those who participated, produced useful results that helps the purpose of the study.

CHAPTER 6

CONCLUSION

This thesis explored the risk of lone working with home health care workers and the effectiveness of safety voice in the home healthcare industry and has shed light on these risks and occupational hazards these workers do encounter when visiting clients' homes. The research answered the following questions:

- How did characteristics of the work environment moderate levels of job-related violence experienced by home healthcare employees?
- In what ways can home healthcare organizations and employees identify and mitigate lone-working risk?
- How can the healthcare organizations implement employee safety voice practice to improve lone-worker safety?

Safety voice, defined as employees speaking up on how to improve occupational safety, was a relatively new term to most of those in the study. Further discussion illuminated the essence of safety voice and to those who knew what it is, recommended that it is encouraged by the management as it will yield tangible ideas and solutions to keeping employees in the home health field safe.

Noteworthy findings from the research, indicate that employers, agencies or organizations have a legal responsibility to protect HHCWs and provide a safe working environment by performing risk assessments, training, provision of personal protection equipment, regular check in staff on the field to ensure the safety of the employee visiting the client's home and encouraging an open communication between management and staff without fear of job insecurity. HHCWs who work alone should be as safe and protected as colleagues

who work in a shared base and employers have a legal responsibility to protect lone workers and minimize the risks faced by the HHCW. Lone working during high-risk job duties presents an unacceptable risk level to workers, home health care agencies can do more to protect affected employees who visit clients' homes, they should assess the occupational hazards these HHCWs are likely to be exposed to before the employees are sent out to perform their duties. A well-thought-out health and safety management process help the home health care organization prevent HHCW exposure to unfavorable situations at clients' home. It should demonstrate a tangible commitment to HHCWs and anyone else who may be affected. It helps integrate health and safety with all other management functions and gives confidence to staff and patients alike that their health, safety, welfare, and well-being are at the forefront of the organization's operations.

Using this information, home healthcare organizations can better develop strategies such as training sessions to educate nurses and other healthcare staff to recognize and respond to both common and specific risks they are likely to encounter while visiting patients. This research contributes to other studies on lone workers with a focus on workers in the home health care industry with the aim of exploring the risks and possible solutions, organizations can introduce to minimize the risks the HHCWs are exposed when working alone and in strange locations. All respondents gave very freely of their valuable time to contribute to this research and demonstrated their willingness to participate and be a voice for other lone working home health care employees in the field.

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APPENDICES

Appendix A

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · **www.ecu.edu/ORIC/irb**

Notification of Initial Approval: Expedited

From: Social/Behavioral IRB
To: Kevin Ogoegbunam
CC:
Michael Behm
Date: 5/2/2018
Re: UMCIRB 18-000533
Working Alone: The Risk of lone Working with Home Healthcare Workers and the Effectiveness of Safety Voice in the Home Healthcare Industry

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 5/2/2018 to 5/1/2019. The research study is eligible for review under expedited category #6, 7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Name	Description
Interview Questions Kevin O.docx	Surveys and Questionnaires
Interview Questions Kevin O.docx	Interview/Focus Group Scripts/Questions
IRB Consent Letter Kevin.docx	Consent Forms
Recruitment Letter - Kevin.docx	Recruitment Documents/Scripts
Thesis Proposal- Kevin.docx	Study Protocol or Grant Application
Thesis Proposal- Kevin.docx	Additional Items

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

Appendix B. Institutional Review Board Consent Letter

Dear Participant,

I am a student at East Carolina University in the Technology Systems department. I am asking you to take part in my research study entitled, "Working Alone: The Risk of lone Working with Home Healthcare Workers and the Effectiveness of Safety Voice in the Home Healthcare Industry"

The purpose of this study is to highlight the risk of working alone (Lone working) in the home healthcare industry and the benefits of implementing safety voice (speaking up behavior), to identify opportunities for effective intervention, with the goal to retain satisfied home healthcare.
Also, apply practical solutions to manage risks and improve both worker and patient safety. Your participation is completely voluntary.

You are invited to take part in this research because you've been identified as a subject expert in this field. The amount of time it will take you to complete this interview 20-30 minutes. Interviews will be recorded for purposes of transcription. A 9-question survey will also be given covering demographics and risks associated with working alone.

During this interview, you will be asked questions that aims at assessing the safety priorities and perception of lone employees. It will aid in providing a closer view of employee safety while performing certain job tasks alone and shed some light on safety voice (speaking up behavior).

Your name and contact information will remain confidential and will not be released beyond my thesis advising committee and the ECU Institutional Review Board (IRB) that will oversee this research. Therefore, some of the IRB members or the IRB staff may need to review my research data. Your identity will be evident to those individuals who see this information. However, I will take precautions to ensure that anyone not authorized to see your identity will not be given that information. Your responses will be kept confidential and no data will be released or used with your identification attached.

If you have questions about your rights when taking part in this research, call the Office of Research Integrity & Compliance (ORIC) at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, call the Director of ORIC, at 252-744-1971.

You do not have to take part in this research, and you can stop at any time. If you decide you are willing to take part in this study, please indicate your verbal consent and we will continue with the interview process. Thank you for taking the time to participate in my research.

Sincerely,

Kevin O. Ogoegbunam
Principal Investigator

Signature ____ Date____________________

Appendix C. Institutional Review Board Recruitment Letter

From: Kevin Ogoegbunam

To: Interviewee Participant

Cc: Dr. Michael Behm, CSP

Date 5/20/18

Re: Request for Interview on Lone Workers in Home healthcare.

Encl: Survey Consent Letter
Dear Participant:

My name is Kevin Ogoegbunam and I was given your contact information by Dr. Mike Behm as a resource to help with the development of my graduate thesis entitled "Working Alone: The Risk of lone Working with Home Healthcare Workers and the Effectiveness of Safety Voice in the Home Healthcare Industry" The purpose of my writing is to ask you to take part in my research study and your participation is completely voluntary.

I am currently working on completing my Master of Science in Occupational Safety at East Carolina University (ECU) in Greenville, NC, USA.

For the purposes of this research I am particularly interested in Lone worker safety as it relates to employees who work alone in the home healthcare industries which can be useful amongst other job fields. This is due to the insufficient data on lone worker safety out there.

To ensure our mutual understanding of what constitutes Lone working and its relative frequently used terms. listed below are the main attributes of each:

- **Lone workers:** A lone worker can be anyone who works alone in a fixed facility or away from his or her regular base. Mostly, the definition applies to those who work alone in factories, warehouses, hospitals. This description can also refer to traveling workers in construction, utilities, maintenance and repair, agriculture, and other fields.
- **Home Healthcare:** A category of healthcare services rendered to individuals in the home for an illness or injury. Home health care is less expensive when compared to regular hospitals facilities, and most cases (treatment, therapy) are done alone.
- **Home Healthcare Worker***:* These are Certified Nursing Assistants (CNAs), and caregivers that are trained to provide non-custodial or non- medical health care.
- **Safety behavior:** Work behavior concerning safety, such as safety compliance, personal protective equipment, and safety initiatives.

Source: Kendra MA (1996). Perception of risk by home health care administration and field workers. Public Health Nurse 13(6):386-393.

Please review the attached Survey Consent Letter, participant(s) should sign the consent letter and send the signed consent letter to the email below.
Once this is signed, I'll contact you and schedule an interview at a time that is convenient for you. If you have any questions for me, please reply to this email at ogoegbunamk16@students.ecu.edu or phone at (617)-309-6521.

Thank you for your consideration to participate in my research.

Sincerely,

Kevin O. Ogoegbunam
Principal Investigator

Appendix D. Respondents' Job Titles

Respondent #1: Physical Therapist.

Respondent #2: Physical Therapist.

Respondent #3: Occupational Therapist

Respondent #4: Physical Therapist

Respondent #5: Home Health Nurse

Respondent #6: Health and Wellness Manager

Respondent #7: Home Health Agency CEO

Respondent #8: Occupational Therapist

Respondent #9: Certified Nursing Assistant (Home Health)

Respondent #10: Home Health Nurse Assistant

Respondent #11: Certified Occupational Therapy Assistant

Respondent #12: Home Health Nurse Assistant- Certified Nursing Assistant

Respondent # 13: Home Health Nurse Assistant- Certified Nursing Assistant

Respondent # 14: Home Health Nurse Assistant

Respondent # 15: Home Health Nurse Assistant- Certified Nursing Assistant

Respondent # 16: Home Health Nurse Assistant

Respondent # 17: Home Health Nurse Assistant- Certified Nursing Assistant

Appendix E. Interview Questions

1. What is your profession, your main occupational group and how long have you been in this job or role?
2. What is your perception of lone working in this industry and are there adequate procedures to aid the safety or safe working practices of lone employees?
3. Do you assess the risks each time you visit a client, patient or commence your task alone, and do you feel you are informed of any risk before visiting a client while working alone?
4. Do you receive lone worker safety training and how effective is it?
5. What percentage of your time do you spend working alone and do you have easy accessibility to help when needed?
6. What tools and processes are provided to ensure your employees' safety while working alone? Are they viable?
7. Have you experienced the following as a lone worker, physical attack or assault, threatening behavior, verbal abuse, accident or medical emergency and stalking?
8. What are your thoughts on lone working in the home-health care industry and what would you suggest, improving lone working in this field and other lone worker in various industries?
9. Will you be willing to participate in a short survey after this interview? If yes, please do complete a 3 – 5-minute survey that will be sent to your respective emails.

Appendix F. **Survey Questions**

1. Which best describes your age?
2. What is your gender?
3. How would you describe the environment you work in?
4. How long have you worked in this role or job?
5. Which of the following do you normally work?
6. Do you assess risks each time you visit a client, patient or commence work alone? Do you feel informed of any risks prior to the task?
7. When working alone, do you believe your employer or supervisor, or colleagues know where you are, so they could intervene if you need immediate assistance?
8. While working alone, do you ever feel unsafe? Have you ever felt uncomfortable about the behavior of a client or colleague?
9. When providing care or other services to people with a known history of violent or aggressive behavior, are you trained on what to do in an emergency?
10. What are your thoughts on lone working in the home-health care industry and what would you suggest, improving lone working in this field and other lone worker in various industries?

Appendix G. Transcripts of Interview Responses (by questions)

Listed in the following paragraphs are the summarized responses written in bold, to the interview questions based on the transcripts, each response was acquired verbatim. A total of seventeen individuals were selected to be used as participants in this study. Convenient sampling was used for all participants

1. What is your profession, your main occupational group and how long have you been in this job or role?

Respondent #1: **I am a Physical Therapist with 12 years occupational experience.**

Respondent #2: **I have been working in the Home Health care industry for 13 years with 2 years' experience as Physical Therapist.**

Respondent #3: **My career as an Occupational Therapist has spanned for 5 months, I am fresh graduate in the occupation and I am acquiring knowledge and experience as I go.**

Respondent #4: **I am a Physical Therapist and I have been in this profession for 10 years and it has been a great experience for me. This is due to the job nature and tasks involved in been a Physical Therapist, especially when you affect people's lives positively.**

Respondent #5: **I have been a Home Nurse for four years, worked as an EMT for six years before going into my current profession.**

Respondent #6: **I am a Health and Wellness Manager and I have been in this profession for 17 years and it has been a great experience for me. This is due to the job nature and tasks involved, especially when you affect people's lives positively.**

Respondent #7: **I worked as a Home Health Nurse for eleven years before I moved to owning my agency. It sure was a thrill right out of college to be a part of helping others**

especially the aging community. My switch to becoming a CEO, came because of my keen eye for business and I figured I could directly be involved with how things are run (the safety of the nurses or aides). I am currently going on twenty- eight years in the home health care industry.

Respondent #9: **I am an Occupational Therapist and have worked for eight years.**

Respondent #10: **Being a Home Health Nurse assistant has been both a sweet and sour experience. Just like any other career, there are good and bad days. I have worked as a Nurse assistant for three years.**

Respondent #11: **As a Certified Occupational Therapy assistant, my activities range from rehabilitative activities for patients who have developmental, physical and emotional impairments to preparing equipment for treatment.**

The field gives me the exposure that I do need to become an Occupational Therapist. I have worked as a Certified Occupational Therapy Assistant (COTA), for three years.

Respondent #12: **I am a Home Nurse and I have been in this role for fifteen years.**

Respondent #13: **My career as a home nurse and a certified nursing assistant has been on for ten long years. It has been one of kind.**

Respondent #14: **I've been a home health nurse for some time now, started off as an emergency nurse but decided to look after the elderly now I am closer to my retirement stage.**

Respondent #15: **I am a Home Nurse and I have been in this role for five years.**

Respondent #16: **I've been a certified nursing assistant for eleven years and a home nurse for three years now.**

Respondent #17: **My career has been in home nursing all my life I can tell you. Always wanted to care for those who needed care especially in-home setting that gives a personal touch to it. I've been in this role for thirty years.**

2. What is your perception of lone working in this industry and are there adequate procedures to aid the safety or safe working practices of lone employees?

Respondent #1: **My perception for working along, has its ties with ones' experience. If the individual isn't experienced in this field of work, it could be a real frightening ordeal. Especially, going to places you have never been or know.**

Respondent #2: **I feel there isn't enough safety measures to protect us workers in the Home Health care industry. I have had experiences where other members of the home, become aggressive or even brandish weapons freely and that is not a welcoming sight for me because of my personal experience with the negative effect of gun use.**

Respondent #3: **There isn't enough safe working practices or ways to protect workers in this field. It is more of an alone situation in these cases. You must use your intuition to decide if the environment is safe or not for you to perform your duties.**

Respondent #4: **I know there are safety guidelines available for us to follow, which informs you on how to access a home before you throw yourself in and always perform your duties with a third eye that constantly keeps watch of your surroundings. Although, more needs to be done by management to ensure the well-being of their staff.**

Respondent #5: **I have been a Home Nurse for four years, worked as an EMT for six years before going into my current profession.**

Respondent #6: **The risks most times overshadow the safety measures put in place, and that indicates that there aren't always enough safety guidelines put out for us.**

Respondent #7: **This is the core reason why I branched out into my own establishment. I have safety rules and safety measures that are used to ensure my workers are not exposed to any form of unsafe work situations. I certainly go over the expected safety limits which is good, because been liable especially as a business owner is bad for me. The incorporation of tracking devices and portable alarm systems for my employees became a priority for me, just to make sure my staff on the field is as safe as they can be. I know more can be done to protect those who work alone, not just in the Home Health care industry.**

Respondent #9: **There is adequate safety measures taken to ensure we are safe when out in the field. I do enjoy working alone.**

Respondent #10: **My perception on working alone in this industry is that is good if you are experienced in this field.**

Respondent #11: **Working alone is a risk on its own. Our field exposes us to numerous hazards, such as the location of the patient's home, the mental state of the patient, those in the surrounding area, the nature of the neighborhood (some could be violent), there are so many factors that put us at risk and It is a major concern to we lone workers.**

Respondent #12: **This job has opened my eyes to a lot of experiences in both unsafe and good moments. There are adequate measures to protect nurses who work at home. I have benefited from those protective measures.**

Respondent #13: **There are cases of home nurses that end up being subjected to violent situations at client's homes. Having protective and preventive measures keep the nurse safe from major risks on the job.**

Respondent #14: **This job has opened my eyes to a lot of experiences in both unsafe and good moments. There are adequate measures to protect nurses who work at home. I have benefited from those protective measures.**

Respondent #15: **I have never had issues working this job, my experiences have been totally good. It isn't a job for everyone, that I can say.**

Respondent #16: **Always evaluate your work environment before you commence on a job. A good job if you know the keyways to keep yourself protected.**

Respondent #17: **A very challenging career, with a lot of characters (the patients). You get to meet different people in this job, so being aware that your protection is or has been covered by the employer, will you give more confidence to accept patients.**

3. Do you assess the risks each time you visit a client, patient or commence your task alone, and do you feel you are informed of any risk before visiting a client while working alone?

Respondent #1: **Not all the time but I always ensure I have a self – assessment of the environment before I commence any task. I am not informed of any risk before visiting my clients.**

Respondent #2: **Not always but I am very careful on every job.**

Respondent #3: **No evaluation is done before I commence any task at a home and I am not informed of risks, only safe practices that should be observed on any job.**

Respondent #4: **No, no evaluation is performed, but always put on safety thinking. It is all a personal evaluation of the environment.**

Respondent #5: **Risk assessment is a personal. You must think about your safety for every job you take on. My years as an EMT, exposed me some dangers and unawareness of certain environments that we find ourselves in. You can only keep you safe and secure.**

Respondent #6: **As I said earlier, the risks most times overshadow the safety measures put in place, and that indicates that there aren't always enough safety guidelines put out for us. Most facilities in the home health care industry do not give a thorough evaluation of the risks we the workers could face in such places. It is a self-analysis of the patient's home.**

Respondent #7: **This is the core reason why I branched out into my own establishment. I have safety rules and safety measures that are used to ensure my workers are not exposed to any form of unsafe work situations. I certainly go over the expected safety limits which is good, because been liable especially as a business owner is bad for me. The incorporation of tracking devices and portable alarm systems for my employees became a priority for me, just to make sure my staff on the field is as safe as they can be. I know more can be done to protect those who work alone, not just in the Home Health care industry.**

Respondent #9: **There is adequate safety measures taken to ensure we are safe when out in the field. I do enjoy working alone.**

Respondent #10: **My perception on working alone in this industry is that is good if you are experienced in this field.**

Respondent #11: **Working alone is a risk on its own. Our field exposes us to numerous hazards, such as the location of the patient's home, the mental state of the patient, those in the surrounding area, the nature of the neighborhood (some could be violent), there are so many factors that put us at risk and It is a major concern to we lone workers.**

Respondent #12: **Yes, I do.**

Respondent #13: **Evaluations are done on the client home before I go out there.**

Respondent #14: **We don't have in-depth client evaluations before jobs, just the basic be alert.**

Respondent #15: **There are risks when a job is done alone, especially to female nurses in this field. I strongly advice proper vetoing of client before sending out a nurse to perform their duties as a nurse.**

Respondent #16: **Working alone and nursing in general go hand in hand in a way, most tasks at hospitals are either done alone or in a team. There are still risks associated with working either way, but a lot more when the job takes you out of the hospital building and to a totally different environment. Means to protect the nurse must be provided and all jobs evaluated before a job is done.**

Respondent #17: **Yes, I do.**

4. Do you receive lone worker safety training and how effective is it?

Respondent #1: **Occasionally we do have safety training. It does need to be performed quarterly though. This is my thought, because of the jobs we handle. Personally, it will be effective if it is done as much as I suggest.**

Respondent #2: **Not always. There are moments the safety training comes in handy and some where it is useless. Especially in situations of physical attacks or animal attacks. I have been bitten by a dog once, the client had the dog loose in the home, even after making my concerns known, it was still let roam free and eventually I was attacked. These are the uncertainties we must deal with; the safety training doesn't cover a large area of possibilities and still puts us at risk.**

Respondent #3: **I haven't received safety training on this job, but I have had other safety training classes outside the job, and I use that knowledge to keep me safe.**

Respondent #4: **No, I do not get safety training frequently. This should be incorporated on a regular base. It should cover other areas that we do face on the job not just the scratch on the surface.**

Respondent #5: **Not received worker training. Just the use of personal assessment on every job.**

Respondent #6: **I have received lone worker safety training. It has been very helpful in some situations for me. I took a self-defense class, for moments where I find myself in need of getting away quickly.**

Respondent #7: **It is my company's policy to always evaluate the work environment prior to sending out any of my staff. If you remember, I mentioned I go over overboard to keep my employees safe. It does cost more but the it will cost a lot more when dealing with the workers compensation. I believe if other agencies can cultivate the habit of doing a background check on a clients' home, the neighborhood, nothing unethical but certain factors that could put the employee at risk. All hazards can't be 0%, there are cases where the patient's home will be in very remote areas that 911 or emergency services could find hard locating. These are situations that go out of our hands, but I make a point to inform my staff about this to ensure they are okay with working in such location or not. My company's motto is; ''We go the extra mile to ensure the patients' safety and those who care for you''**

Respondent #9: **Yes, I have received lone worker safety training and it is effective where it needs to be.**

Respondent #10: **There is safety training, but I feel it isn't enough.**

Respondent #11: **No, I have not received lone worker safety training. I do educate myself on certain things that could go wrong at the clients' home.**

Respondent #12**: I have received lone worker training and it sure is effective.**

Respondent #13**: We do have safety training readily available for nurses who work alone and it efficient.**

Respondent #14**: Honestly, I have not had a training of any kind. It just the do's and don'ts policy of the establishment you work with.**

Respondent #15**: I have been through lone worker safety training which has been very helpful.**

Respondent #16**: No lone worker safety training.**

Respondent #17: **I have received lone worker training, but it doesn't really feel like it works al the time.**

5. What percentage of your time do you spend working alone and do you have easy accessibility to help when needed?

Respondent #1: **Full-time shift. No, I don't always have easy access to help because my job takes me to some areas with poor network reception.**

Respondent #2: **Not always. I work full time.**

Respondent #3: **I do have access to help when needed, management keeps constant check on those on the field.**

Respondent #4: **I don't always have access to help when needed. If I do find myself in a bind, 911 is always my go to. I work a full eight-hour shift**

Respondent #5: **Yes, I do have access to help and I work full time.**

Respondent #6: **I certainly do have direct line to our emergency service and 911. It has helped me in a past situation. I work a five-hour shift and another job.**

Respondent #7: **Yes, my staff has direct and easy access to assistance when its needed. I'm always working.**

Respondent #9: **Yes, and I work a full-time shift.**

Respondent #10: **No, there isn't immediate assistance when needed. I work and travel 40% of the time.**

Respondent #11: **911 Is my emergency number if anything goes wrong at a clients' home. I work full time.**

Respondent #12**: Not always. I work full time.**

Respondent #13**: Yes, I do have access to help, and I work full time.**

Respondent #14**: I work full time, twelve-hour shift. Yes, there is easy access to help when needed. At least where I work.**

Respondent #15**: I work full time and the only direct help line is 911 for me.**

Respondent #16**: Not all the time. I work full a day shift.**

Respondent #17**: Yes and No. immediate assistance can be far stretched sometimes, it works if the situation doesn't escalate fast.**

6. What tools and processes are provided to ensure your employees' safety while working alone? Are they viable? What is your take on safety voice (the act of speaking up on safety concerns to colleagues or management) will it be effective in mitigating risk to lone workers in the home healthcare sector?

Respondent #1: **There's really none. I am aware some agencies equip their staff with mobile tracking devices and alert systems that requests help. That does sound like a useful tool. The term used Safety voice is relatively new, but the act of communicating safety concerns has been in existence for some time now. A major factor that hinders safety voice will be management. These communicated concerns are sometimes brushed off as just part of the job or it becomes a financial debate in mitigating that risk or hazard. A great example, the supply of mobile devices and personal alert system, complete evaluation of the job site before sending out staff to work. It costs money, which could be case of "the management will review it and get back to you". In my opinion, safety voice helps keep employees aware of possible risks on certain clients with a negative history or events that happen on the job.**

Respondent #2: **We don't have any available, just word of mouth on what to do and what not to do. I believe speaking up behaviors goes a long way, my orientation on a previous job was basically colleagues informing me about a client that has a history of violence and the management still sends staff out there. I was given a heads up prior to the job which gave me a sense of what clients I feel comfortable with or not. I must protect myself no matter what.**

Respondent #3: **I feel the use of tracking devices will be helpful while working. But it does have some unethical concerns especially when the employer uses it to track staff off the clock. Currently, there is none available to me. There is a grey area on speaking up, it comes with fears of losing one's job or being painted as the bad one among the team. It has its advantages and disadvantages, it could be helpful if employees are certain that what**

they communicate to management or other employees, wouldn't get them in trouble or fired.

Respondent #4**: There are tracking devices available, which work as it should but in situations where we have jobs at remote sites, it could be a problem due to the network availability. I do encourage such practices in every organization, it's more of an informal orientation among employees, but to management, it could be a reason to spend more money. This may not sit well with them now due to the possible expense on mitigating such cases. Most home health care agencies are small scaled businesses, going an extra mile to ensure the workers are safer may be a challenge.**

Respondent #5: **Yes, I have safety tools available for work. I do have one on me now and it does show where I am to management, only for work purposes not on my personal time. It does work no doubt but sometimes those staff that indulge in shady dealings may have it turned off which could result into a bad situation if they get in trouble and need help. I would encourage speaking up practices. You can save a life no matter how little that information is.**

Respondent #6: **There should be tools available to us on the field but, there isn't any that could protect us from immediate harm if there is moment like that. The tools provided only track and send out emergency alert when in trouble, but will it save you from being attacked on the spot, no! Safety voice!! It's not a common practice amongst my team, but it would be something worth trying.**

Respondent #7: **I ensure my staff all have devices that could prevent them from nasty situations.**

My employees are safe app hubs equipped on their cell phones or company phones provided, wearable SOS button, which is very discrete, SOS fob and the traditional protect me device (personal tracking device). I hold interactive sessions with my staff, to bring up ideas on how and what could be done to improve or perfect the safety of every one of us. It is a great experience because you find out things that aren't being told to you or reported. It may seem inconsequential, but it could result to something bigger if left unattended.

Respondent #9: **We do have safety devices available. Yes, I strongly believe it will do a lot of good to us lone employees, an open discussion among staff should be allowed to discuss situations faced at the clients' home, good or bad situations, without the fear of losing employment.**

Respondent #10: **There is none. I wouldn't speak much about that due to some management constraints, but I know of individuals the speaking up behavior has helped.**

Respondent #11: **No. I doubt that will fly with management, but it should be encouraged.**

Respondent #12: **We do have safety devices available and I strongly believe speaking up behaviors can help create lone worker awareness on risk and hazards.**

Respondent #13: **I am not aware of any devices available, I mean I'm old school, so I just go with my guts. Talking about safety concerns, that's what you mean by speaking up behaviors right? I will encourage that totally.**

Respondent #14: **Yes, there are available safety devices for us. I use a personal device too that can alert 911 and my employer.**

Respondent #15: **I do not use any, but the company evaluates the home before we go to over there. I think speaking up behavior can be a useful tool and it will be efficient if practiced.**

Respondent #16: **Yes, I strongly believe it will do a lot of good to us lone employees, an open discussion among staff should be allowed to discuss situations faced at the clients' home, good or bad situations.**

Respondent #17: **Yes, we do, and it works.**

7. Have you experienced the following as a lone worker, physical attack or assault, threatening behavior, verbal abuse, accident or medical emergency and stalking?

Respondent #1: **No, I have not but I was close to being attacked physically. I understood the situation because the patient had dementia. The client saw me to be a stranger, which is bound to happen when working with those with dementia**.

Respondent #2: **I have not had any of those experiences but a friend of mine has been in such situation (stalking).**

Respondent #3: **I guess I have been lucky; I have had a smooth run in my career without those attacks. I am aware these things happen to other employees out there.**

Respondent #4**: None of these.**

Respondent #5: **I haven't been in any of these situations before.**

Respondent #6: **No, I have not had any.**

Respondent #7: **My previous years of working as a Home Health Nurse, I was attacked physically and had a medical emergency on one of the jobs. I was pregnant at the time and had real bad contractions, but it was just the stress of the job. I was lucky to have a member of the home call the emergency service and I was taken care of.**

Respondent #9: **No.**

Respondent #10: **No, I have not.**

Respondent #11: **Yes, I have, and I don't want to remember the experience.**

Respondent #12: **I don't think I have had any bad experiences as a home health nurse.**

Respondent #13: **I have had several harassments but no physical attacks. They were scary moments.**

Respondent #14: **Yes, I have. I have been shoved by a member of the home I worked at. Been verbally abused also.**

Respondent #15: **No, I haven't had any bad experiences.**

Respondent #16: **Just verbal abuse.**

Respondent #17: **I have had very angry clients. Once I can see things are likely to escalate, I just report to the management and I am out.**

8. What are your thoughts on lone working in the home-health care industry and what would you suggest, improving lone working in this field and other lone worker in various industries?

Respondent #1: **This career path is a fun one if you do have the experience, it can get weird sometime to those who are new in it. I will always say, you do have to evaluate where you are assigned to even if it has been done by management. You are the one in that environment and not the management, one needs to be extremely cautious. Some places are good while others aren't.**

Respondent #2: **I recommend mental surveys of clients which isn't done, evaluation the home environment before getting there, and evaluating external factors, social and economic factors. I have good experiences so far, but safety measures need to be improved for our safety.**

Respondent #3: **It is a risky job, once we have the right tools to keep us working safe, we are okay.**

Respondent #4**: Play it safe while you work. No job is free of risk or hazards, ours can cut across numerous factors that are too much to contain, but it is a great job.**

Respondent #5: **I would recommend better security alert for the employees, assessment for environments and constant observation.**

Respondent #6: **Working alone in the home health is a whole world entirely, vast areas of concerns but we always prevail because we are tough to take on such jobs. I do believe if we all can imbibe a good safety culture and practice it.**

Respondent #7: **A good safety culture in any establishment brings about safe practices. Lone workers generally have constant fear of the unknown but an organization that puts their safety first will have solid productivity from its staff. It is great to see individuals perform job duties without major concerns that hinder them from working safe.**

Respondent #9: **Always work safe in what you do, it spans across all job categories.**

Respondent #10: **key words, safety culture, safe practices, quick safe thinking and evaluation. Self-awareness of surroundings, you don't want to go out there and be ignorant of what is going on around. Always be on your toes and perform your duties as you should. If you feel unsafe, politely take your leave and report to the management.**

Respondent #11: **Always, go with those safety devices. You never know when it will come in handy.**

Respondent #12: **It is advisable to always ask major questions about the client before you take on the job.**

Respondent #13: **Live by an outstanding safety culture, always playing it close to the vest when taking on a job.**

Respondent #14: **Work safe no matter where you are.**

Respondent #15: **The moment you realize the job isn't for you, just leave it immediately. You don't want to work in an environment with so much fears.**

Respondent #16: **Be aware of your surroundings especially at clients' homes.**

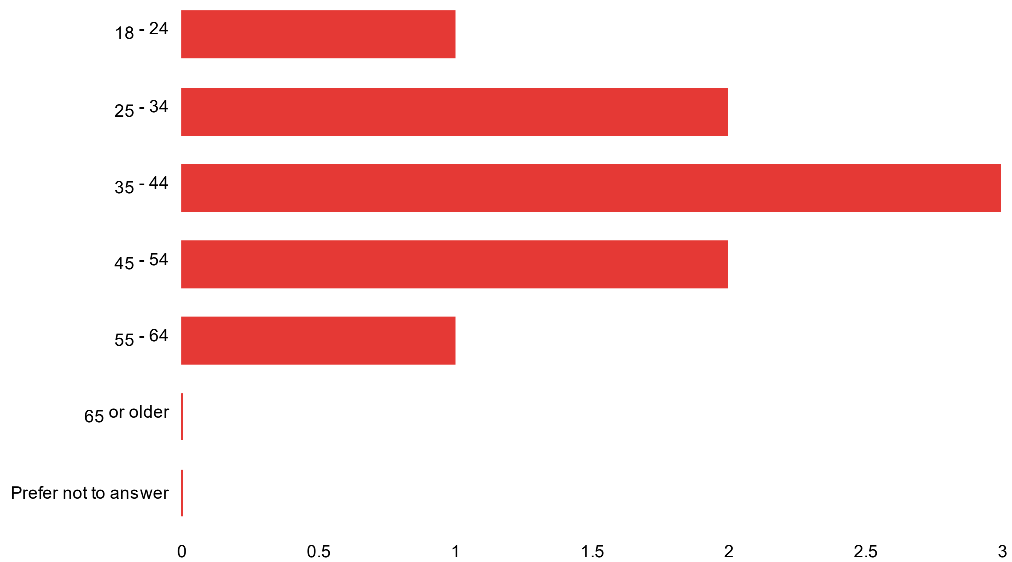
Respondent #17: **I use the personal safety equipment while working on the field. It keeps me in touch with my employer and emergency services.**

Appendix H. Bar chart of responses of each survey question

This covers survey questions used as part of the research, it focuses on demographics, age, sex, duration of work hours / shift and a brief share of anecdotes for lone workers in this field, and in general.

Bar Chart for Survey Question 1

1. Which best describes your age?



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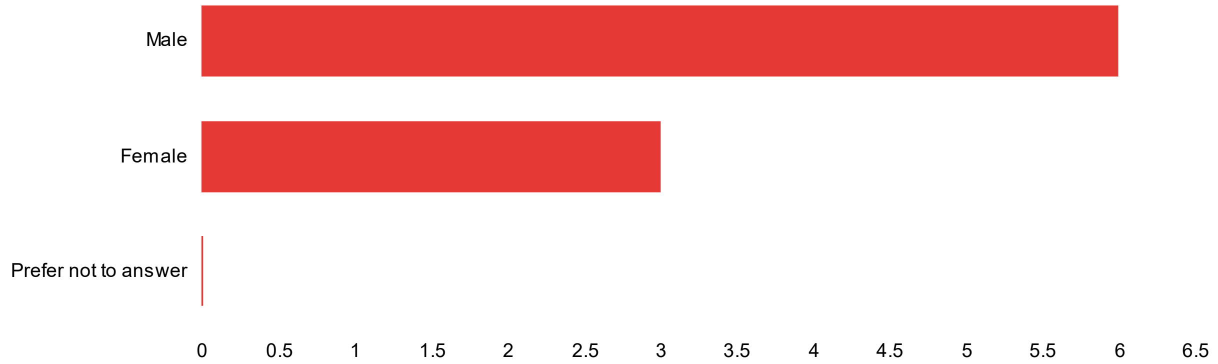
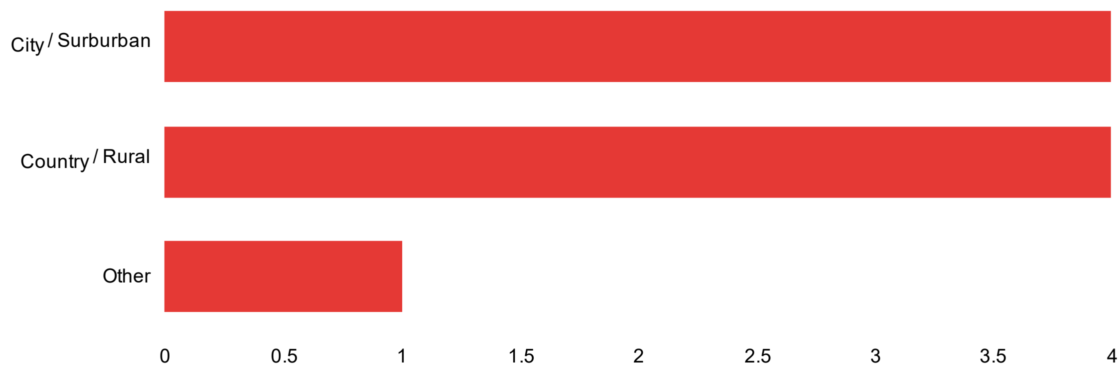
Bar Chart for Survey Question 2

2. What is your gender?



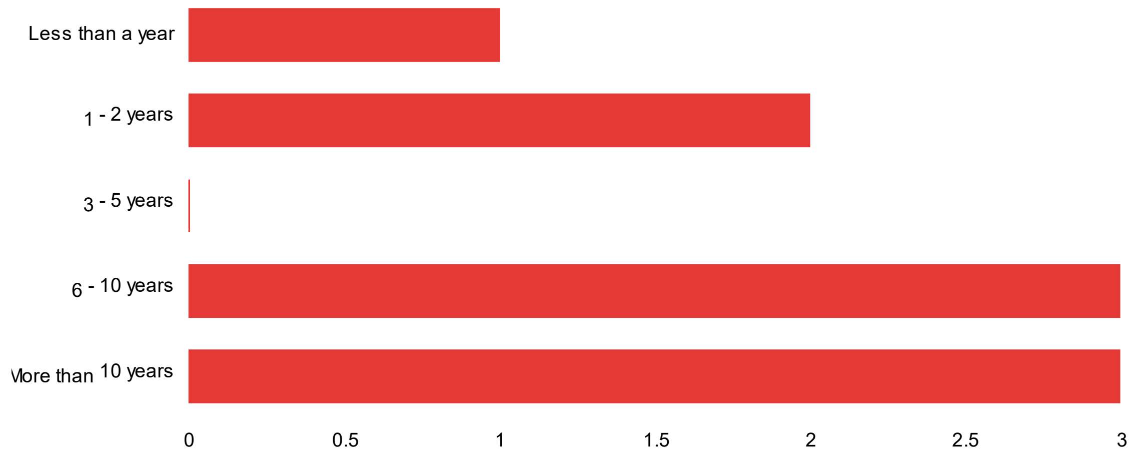
Bar Chart for Survey Question 3

3. How would you describe the environment you work in?



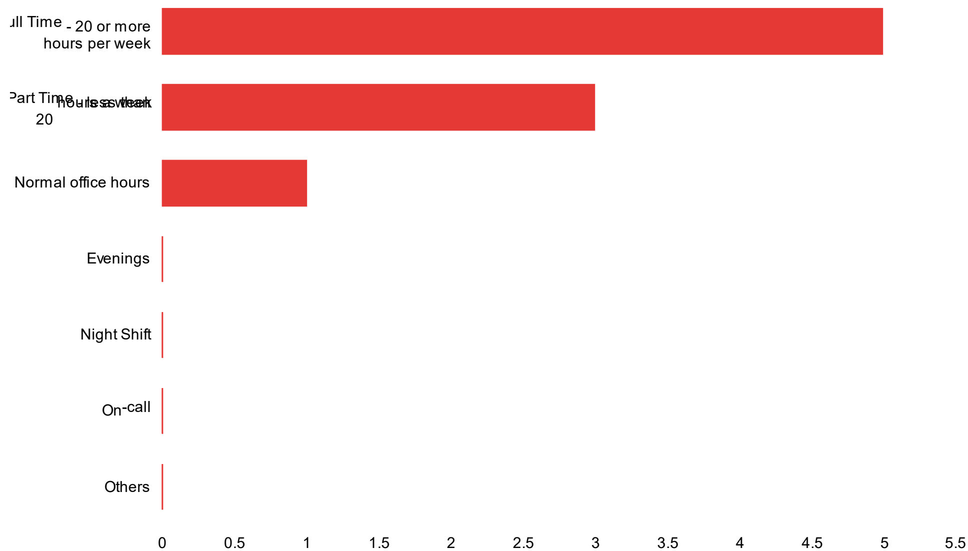
Bar Chart for Survey Question 4

4. How long have you worked in this role or job?



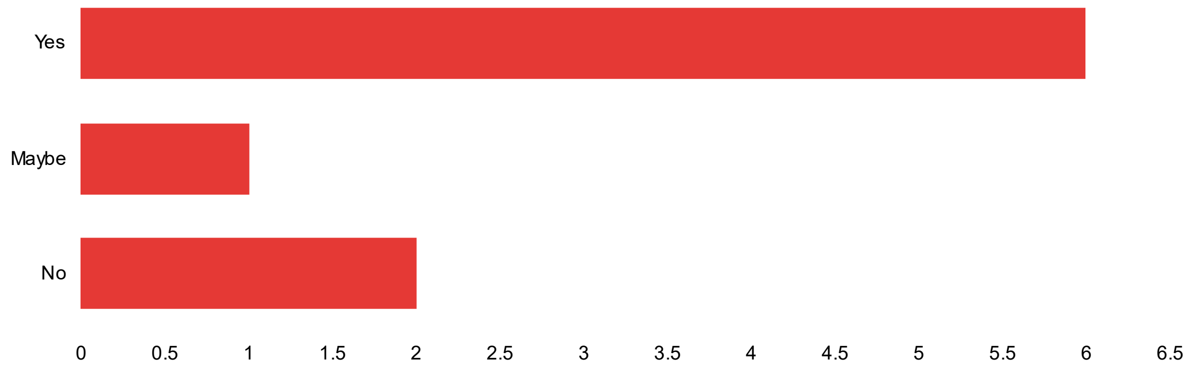
Bar Chart for Survey Question 5

5. Which of the following do you normally work?



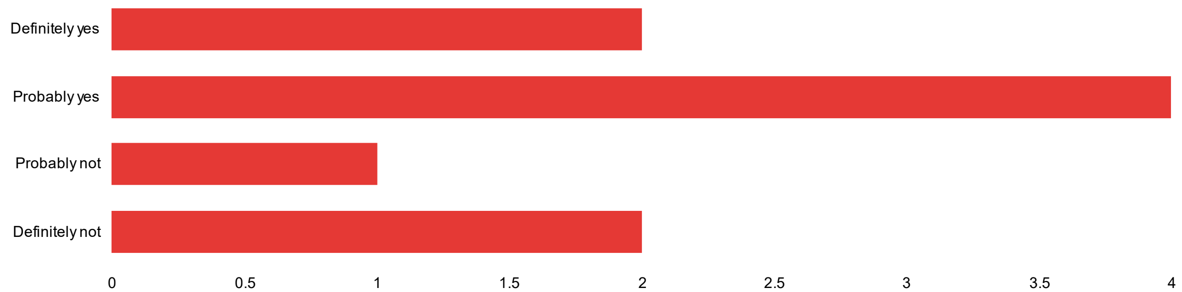
Bar Chart for Survey Question 6

6. Do you assess risks each time you visit a client, patient or commence work alone and do you feel informed of any risks prior to the task?



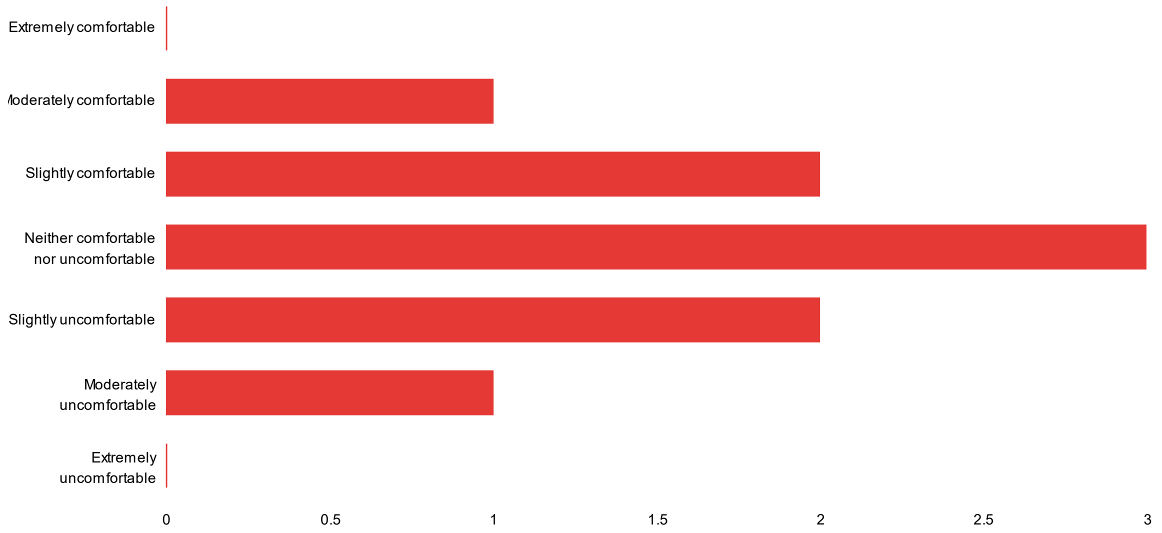
Bar Chart for Survey Question 7

7. When working alone, do you believe your employer or supervisor, or colleagues know where you are, so they could intervene if you need immediate assistance?



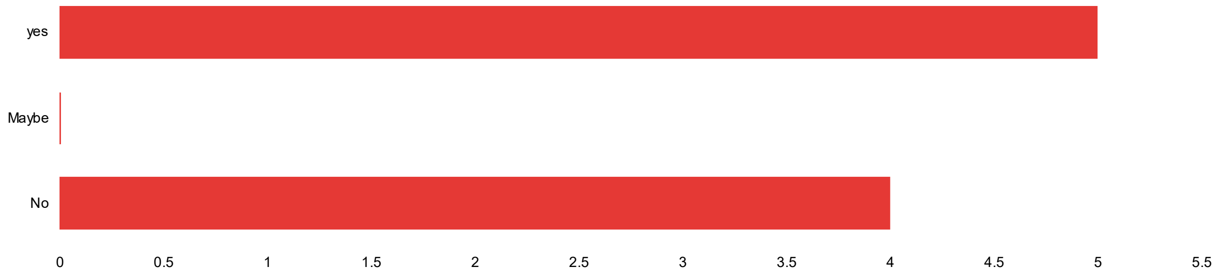
Bar Chart for Survey Question 8

8. While working alone, do you ever feel unsafe? Have you ever felt uncomfortable about the behavior of a client or colleague?



Bar Chart for Survey Question 9

9. When providing care or other services to people with a known history of violent or aggressive behavior, are you trained on what to do in an emergency?



Survey Question 10

What are your thoughts on lone working in the home-health-care industry and what would you suggest improving lone working in this field and other lone worker in various industries?

In this field, I would suggest hour's flexibility.
Ensure you are aware of the nature of the job you are assigned to. If you don't feel okay with it, don't go for it.
Self-evaluate before and while working. Do assess the environment always.
Always work safe
It's a very technical and intuitive job.
It has been a great experience, although a risky job but it is worth the risk in some cases. When the need to help a fellow human in need of recovery. I would suggest the employers put in more effort in ensuring the work environment is as safe as it can be before sending workers on the field.
Management should prioritize the safety of its employees before any task begins, that could prevent unwarranted events from occurring.

I would recommend the use of speaking up about safety issues, and the use of personal protective devices. That will give the home health nurse an assurance of their safety.

You just must be careful and always inform a colleague of your whereabouts just as a backup.

Be safe and aware for any home visits. Do have training on de-escalating situations, that is very helpful and always have someone who is aware of your location.