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# Ergonomics Programs In Kentucky's Nursing Homes

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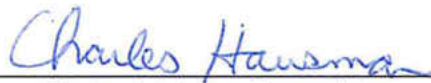
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ERGONOMICS PROGRAMS IN KENTUCKY'S NURSING HOMES

By

David Hill Stumbo

Thesis Approved:



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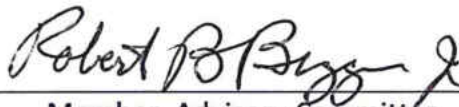
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ERGONOMICS PROGRAMS IN KENTUCKY'S NURSING HOMES

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## ABSTRACT

This study sought to determine how many nursing homes had implemented ergonomics programs, and how closely these programs followed the NIOSH/OSHA model. It also sought to investigate relationships that might exist between ergonomics programs and MSD rates occurring among direct care workers engaged in moving and physically assisting residents. Findings suggest a high percentage of Kentucky's nursing homes have ergonomics programs in place for their direct care workers, and that these programs appear to follow the model. In addition, findings indicate a significant relationship between ergonomics programs and MSD rates.

Keywords: direct care workers, ergonomics, nurse aides, nursing home, occupational injuries and illnesses.

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# ERGONOMIC PROGRAMS IN KENTUCKY'S NURSING HOMES

## CHAPTER 1: INTRODUCTION

*[O]ut of this nettle, danger, we pluck this flower, safety. ~ William Shakespeare*

The employees of nursing homes provide essential care to some of the most infirm and dependent members of society. These women and men hold positions as orderlies, nurse aides, and nurses. These employees are referred to collectively as *direct care workers*, due to the feeding, moving, bathing, grooming, and other hands-on caretaking tasks they perform for nursing home residents. Though such work appears to be at a low risk to injury, nursing home direct care work ranks among the most hazardous types of occupations (Hoskins, 2006; McGlothlin & Streetman, 2009).

Direct care workers have experienced notably elevated levels of occupational injuries as a result of the physically strenuous and repetitive nature of many of their routine work tasks (Boden et al., 2012; McCaughey, DelliFraine, McGhan, & Bruning, 2013; Pompeii, Lipscomb, & Dement, 2008). The majority of these injuries are attributed to work that involves moving and handling nursing home residents, and results in injuries that are broadly described as musculoskeletal disorders (MSDs) (Lim, Black, Shah, Sarker, & Metcalfe, 2010; Occupational Safety and Health Administration [OSHA], 2008).

The prevention and control of MSDs fall within the realm of the applied science of ergonomics (McGlothlin & Streetman, 2009). Generally, employers have recognized that ergonomics programs can be successfully applied to prevent and reduce the severity of MSDs among their employees (Gilbert, Vermillion, & Chase, 2012; Missar, Metcalfe, & Gilmore, 2012; Nelson et al., 2006). The same holds true for the nursing home

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industry, where administrators, managers, and other responsible parties have sought to redress the ergonomics-related injuries suffered by their direct care staff members through the implementation of ergonomics programs (Institute for Worker Health, 2007).

The literature supports the use of workplace ergonomics programs of varying compositions (DiNardi, 1998; Kilborne & Petersson, 2006). One model in particular has become established in the field. This model is referred to herein as the *NIOSH/OSHA model*, because it has been described and supported by prominent publications issued by these two organizations over the last two decades (Cohen, Gjessing, Fine, Bernard, & McGlothlin, 1997; National Institute for Occupational Safety and Health [NIOSH], 2000; OSHA, 2000; OSHA 2008). The NIOSH/OSHA ergonomics program model consists of seven key programmatic elements. These elements are listed in basic terms as follows: 1) the provision of management support; 2) the involvement of employees; 3) the identification of ergonomics problems; 4) the implementation of corrective solutions; 5) the provision of methods to address ergonomics-related injuries; 6) the provision of training; and 7) the evaluation of ergonomics efforts (Cohen et al., 1997; OSHA, 2008).

Specific to Kentucky's nursing homes, information is not readily available or does not exist regarding ergonomics programs. First, it is not clear how many nursing homes in Kentucky have ergonomics programs in place. Equally, it is not clear to what extent these programs adhere to the NIOSH/OSHA model. In the same vein, little or no information exists regarding what relationships might exist between the ergonomics programs administered by Kentucky's nursing homes and the rates of MSDs that occur among their direct care workers. This study sought to gather essential information on these issues.

### **Injury Rates for the Nursing Home Industry**

The North American Industrial Classification System has classified nursing homes under NAICS 623 - Nursing and Residential Care Facilities, and described this group as follows:

Industries in the Nursing and Residential Care Facilities subsector provide residential care combined with either nursing, supervisory, or other types of care as required by the residents. In this subsector, the facilities are a significant part of the production process and the care provided is a mix of health and social services with the health services being largely some level of nursing services. (U.S. Census Bureau, 2014, para. 1)

By the measure of employee injury and illness rates, nursing homes are substantially perilous places to work (Bureau of Labor Statistics, 2016a). National data indicate that in 2015, private sector nursing and residential care facilities reported that work-related injuries and illnesses occurred among their employees at a rate of 6.8 incidents per 100 full-time employees. Public sector nursing and residential care facilities, operated by state and local government employers, reported a substantially higher rate of 12.0 for the same year. By contrast, the rate across all private industries nation-wide was only 3.0 per 100 full-time employees and for state and local government-operated nursing homes, was 5.1 for the same year.

### **Work-Related Musculoskeletal Disorders**

OSHA notes that employees of nursing homes may be exposed to various occupational hazards such as bloodborne pathogens, tuberculosis, resident-on-caregiver violence, slips, trips, and falls and others (OSHA, 2012a). However, the type of injury of

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the greatest significance to direct care workers is found within the group referred to as *musculoskeletal disorders (MSDs)* (Hoskins, 2006; Menzel, 2008; NIOSH, 2000). MSDs are defined by the NIOSH (2012) as follows:

Injuries or disorders of the muscles, nerves, tendons, joints, cartilage, an (sic) disorders of the nerves, tendons, muscles and supporting structures of the upper and lower limbs, neck, and lower back that are caused, precipitated or exacerbated by sudden exertion or prolonged exposure to physical factors such as repetition, force, vibration, or awkward posture. (para. 3)

The cause of MSDs among direct care workers has been attributed to the strenuous and repetitive resident lifting and handling tasks that these caregivers routinely perform as part of their typical work tasks (Menzel, Hughes, Waters, Shores, & Nelson, 2007; Pompeii et al., 2008; Smith & Leggat, 2004). Data from 2013 indicate that nursing assistants are second only to firefighters for work-related MSDs, with rates of 208 and 232, per 10,000 full-time workers, respectively (Bureau of Labor Statistics, 2015a).

### **The Impact of Occupational Injuries**

Occupational injuries present potentially significant effects. Perhaps the most well-recognized are the physiological pain and trauma injured employees experience. Beyond these, injured employees may then also face further negative consequences, such as diminished family relationships (Boden, 2005). Further, the financial consequences of work-related injuries also bear consideration. NIOSH noted that since “the average workers’ compensation cost for back pain is \$10,689 per case, back pain alone represents a significant health and economic burden” (2009, p. XII). Comprehensive national estimates of the financial impact of workplace injuries are rare, but a 2007 study



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indicated that the overall costs of occupational injuries were approximately \$250 billion (Leigh, 2011).

The costs associated with the administration of ergonomics programs are financially significant to employers (OSHA, 1999). While developing its ergonomics regulation, OSHA conducted detailed economic impact analyses of the anticipated costs to employers for compliance. The agency reported that nationally, the nursing home industry would incur approximately \$95 million in total costs for compliance. Of this, the costs incurred would be approximately \$47.7 million for the administration of ergonomics programs. These costs would be approximately \$131 billion and \$66 billion in 2016, respectively, adjusted for inflation (Bureau of Labor Statistics, n.d.). However, others have suggested that actual costs “would be 2.5 to 15 times higher than the Agency’s estimate” (OSHA, 1999, p. 68808). There may also be cost savings result following the implementation of an ergonomics program. For instance, following the implementation of ergonomic improvements a return on investment at two to three times the investment can result (Ip, Gober, & Rostykus, 2016).

### **Injury Prevention and Control Efforts**

An expansive amount of federal occupational safety and health regulations are enforced by OSHA to protect employees from various types of workplace hazards. No federal regulations currently exist that expressly protect employees from ergonomics hazards (OSHA, 1999). OSHA’s efforts at addressing ergonomics hazards began in the early 1980s and arrived at a comprehensive regulation in the late 1990s. The agency’s ergonomics regulation was enacted in 1999 by the out-going Clinton administration (*Need to Reduce*, 2001), but was then promptly revoked by Congress early in the George

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W. Bush administration. State-level legislation seeking to address ergonomics hazards through divergent methods has been enacted in 11 states (Lapane, Dube, & Desdale, 2016).

Without a regulation in place that specifically addresses ergonomic hazards, OSHA can only seek to protect employees through citations issued under Section 5(a)(1) of the OSH Act of 1970, often referred to as the *general duty clause* (Maurer, 2014). However, citations of the general duty clause can be difficult for OSHA to uphold under legal challenge (Ashford, 1976; Biles, 2013; Ellington, 2015). The agency's efforts in this regard can be seen to falter over time, with citations for ergonomic hazards applicable to protecting workers in nursing homes peaking in 2002 and 2003 and declining thereafter (Purswell & Purswell, 2011).

Occupational safety and health proponents and researchers have considered various approaches to control and prevent the occurrence of MSDs, efforts at regulation notwithstanding (OSHA, 2012b; OSHA, 2012c). Other approaches include the use of mechanical lift devices during resident lifting and handling tasks to reduce the strain borne by direct care workers (Waters 2010; Collins, Nelson, & Sublet, 2006). Likewise, the provision of training of affected employees regarding the hazards of resident lifting has been described as a means to reduce the occurrence of MSDs as well (Jaromi, Nemeth, Kranicz, Laczko, & Betlehem, 2012; Peterson, McGlothlin, & Blue, 2014).

Along with the use of mechanical lifts and training, the utilization of ergonomics programs for the prevention and reduction of MSDs among direct care workers is widely supported in the literature (Bernacki, Guidera, Schaefer, & Tsai, 1999; Garg & Kappellusch, 2012; Orr, 1997; Schneider, Peterson, McGlothlin, & Blue, 2004).

## ERGONOMIC PROGRAMS IN KENTUCKY'S NURSING HOMES

Successful ergonomics programs have been described as being comprised of diverse elements that include not only lifts and training, but also elements such as the application of no-lift policies and the utilization of programs for the medical management of injured employees (Collins, Wolf, Bell, & Evanoff, 2004; Lim et al., 2010). Similarly, OSHA and NIOSH have developed and promoted an ergonomics program model comprised of seven key elements (McGlothlin & Streetman, 2009; Cohen et al., 1997; OSHA, 2008).

### **Conceptual Framework and the NIOSH/OSHA Model**

Presented below as two possible processes are concepts underlying this study. Depicted first is Figure 1.1, which illustrates the subjection of direct care workers to resident moving and handling tasks. This then leads to the development of MSDs.

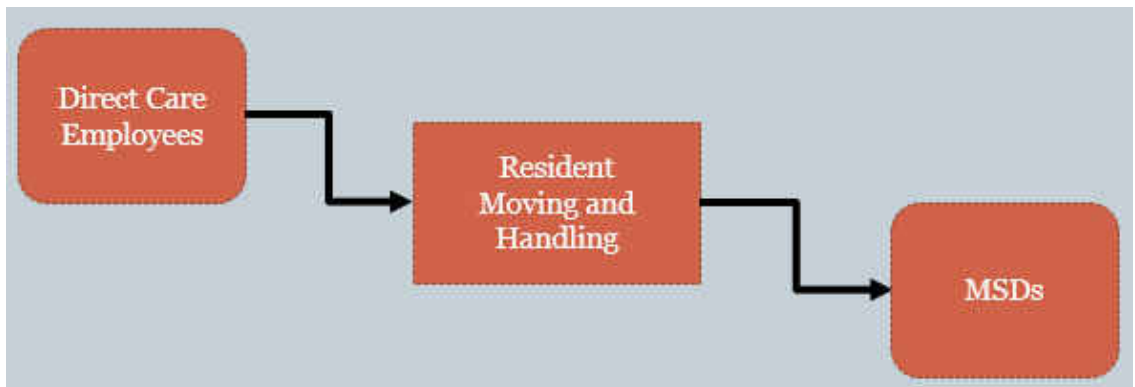


Figure 1.1. MSDs Arising Out of Resident Handling Work

Figure 1.2 illustrates the second process, which is the treatment of the NIOSH/OSHA model ergonomics program, shown to lead to comparatively fewer MSDs.

## ERGONOMIC PROGRAMS IN KENTUCKY'S NURSING HOMES

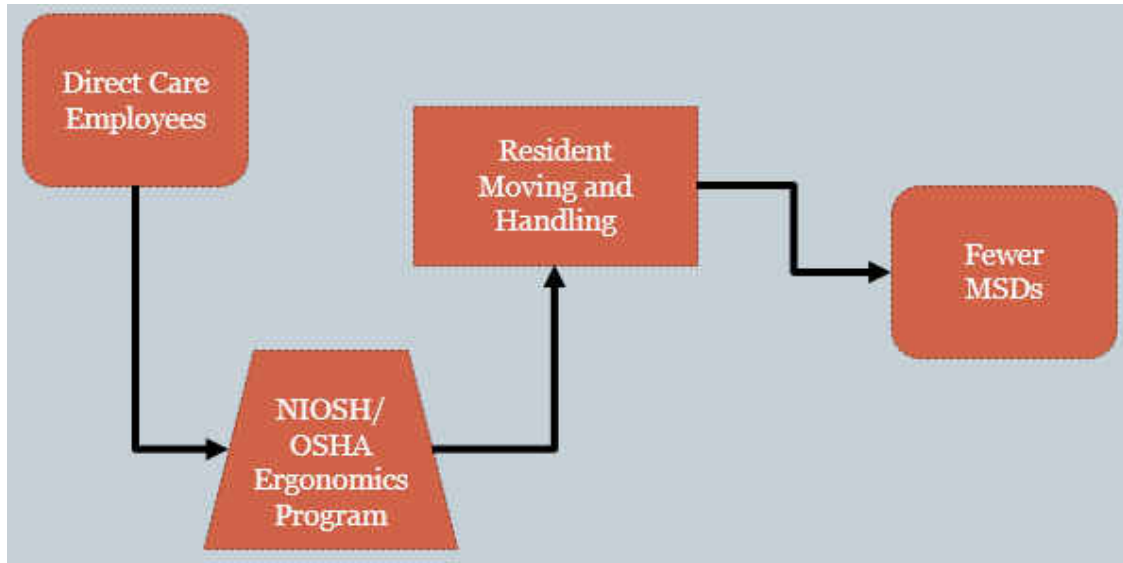


Figure 1.2. Application of NIOSH/OSHA Model Ergonomics Program.

This study has elucidated a NIOSH/OSHA model from efforts of these two agencies toward addressing ergonomic risks, though it has not formally described. OSHA began taking action towards addressing ergonomics in the early 1980s by holding discussions with labor and trade groups and professional associations. It then issued publications such as *Ergonomics Program Management Guidelines for Meatpacking Plants* in 1990 and produced an educational video titled, *Ergonomic Programs that Work* in 1998 (OSHA, 1999). NIOSH's (1981) work on ergonomics follows a similar chronology, with the issuance of guidance publications such as *Work Practices Guide for Manual Lifting* and *Participatory Ergonomic Intervention in Meat Packing Plants* in 1994.

Three key publications formulate the NIOSH/OSHA model. The first is NIOSH's *Elements of Ergonomics Programs: A Primer Based on Workplace Evaluations of Musculoskeletal Disorders* (Cohen et al., 1997). This significant publication describes a

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process for employers to follow comprised of a “seven-step ‘pathway’” (Cohen et al., 1997, p. vi). These seven steps correspond to the following programmatic elements:

- provision of management support;
- involvement of employees;
- identification of problems involving ergonomics issues;
- implementation of solutions;
- addressing of ergonomics-related injuries which have occurred;
- provision of applicable training; and
- the evaluation of efforts associated with the ergonomics program.

These elements align with those described in subsequent publications by OSHA.

A key OSHA publication that included seven ergonomics program elements essentially identical to those given in NIOSH's publication was the agency's *Ergonomics Programs* standard, which set forth regulatory requirements for ergonomics programs (OSHA, 2000). The closeness in mindset between OSHA and NIOSH regarding ergonomics programs is reflected in OSHA's *Ergonomics Programs* standard, which included 361 specific references to NIOSH in its text (OSHA, 2000). Finally, and most specific to the nursing home industry, is OSHA's 2008 publication *Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders*. Therein, OSHA again detailed and prescribed the seven element ergonomics program mentioned previously.

### **Rationale for Study**

The fundamental purpose for this study is to better inform nursing homes, occupational safety and health practitioners, and other stakeholders about the nature of

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ergonomics programs used in the nursing home industry. Direct care workers could be better protected from occupational MSDs by this information. MSD injuries can impart great harm to affected employees, resulting in physical pain, lost income, and social devitalization (Asfaw & Souza, 2012; Boden, 2005). In addition, MSDs among direct care staff are operationally damaging to nursing homes, as these MSDs are associated with lost work-time, turnover, and other problems (Health Resources and Services Administration, 2004; McConnell, Lekan, & Corazzini, 2010). The gravity of these issues calls for focused study on the control of MSDs through ergonomics programs.

### **Purpose of Study**

The direct care employees of nursing homes are at substantial risk of suffering work-related MSDs (Craib, Hackett, Back, Cvitkovich, & Yassi, 2007; Hignett, 1996). Nursing homes may elect to implement ergonomics programs in an effort to prevent and minimize the occurrence of MSDs among these workers (Garg & Kapellusch, 2012; Neumann, Eklund, Hansson, & Linkdbeck, 2010). The utilization of ergonomics programs by nursing homes has been suggested as a viable approach to reducing MSDs among direct care workers (OSHA, 2008). However, little data are available to indicate the extent to which nursing homes in Kentucky have actually implemented ergonomics programs in their facilities.

It is possible that nursing homes' ergonomics programs may vary widely in terms of composition due to a lack of controlling legislation (Nelson & Baptiste, 2004). Accordingly, those who are authorized to develop and administer these programs are at liberty to include various programmatic elements such as training, mechanical lifts, and ergonomics teams (Missar et al., 2012; Nelson et al., 2006), and a number of models exist

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from which administrators might follow in the formulation of their ergonomics programs (Geiger, 2013; Soares, Jacobs, & Lugão et al., 2012). Although the efforts of NIOSH and OSHA have been extensive and sustained toward influencing nursing homes to implementing ergonomics programs that follow the seven element model, it is largely unknown to what extent nursing homes in Kentucky have adopted and followed the NIOSH/OSHA model.

This lack of information about Kentucky's nursing homes' ergonomics programs precludes making any characterizations as to the relationships between the programs in place and the corresponding MSD rates that occur among their direct care employees. It might suggest that nursing homes that do not closely follow the NIOSH/OSHA model might observe higher MSD rates than those that do closely follow the NIOSH/OSHA model. However, this relationship would be purely speculative without purposeful study. These deficiencies in information helped to formulate the overall purpose of this study, which was to gather information about ergonomics programs utilized by Kentucky's nursing homes. This has led to the formulation of three research questions.

### **Research Questions**

The overarching questions guiding this study were as follows:

1. How many nursing homes in Kentucky have implemented ergonomics programs for controlling work-related musculoskeletal disorders among their direct care employees?
2. How closely do the ergonomics programs in place in Kentucky's nursing homes follow the NIOSH/OSHA model?

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3. What are the relationships between the ergonomics programs in place in Kentucky's nursing homes and rates of MSDs that occur among direct care workers resultant from resident care tasks?

### **Significance of Study**

Work-related MSDs among direct care workers present a significant issue relative to these workers and their nursing home employers. Employees who suffer MSDs are likely to bear physical pains from their injuries, but are also known to be at an elevated risk of developing psychological illnesses such as depression (Asfaw & Souza, 2012). Their injuries can lead to negative impacts on family roles and activities, such as doing household work and helping with childrearing (Strunin & Boden, 2004). Additionally, injured workers are exposed to significant negative economic impacts, as "injured or ill workers and their families absorbed about 44 percent of the costs" (Leigh, Markowitz, Fahs, & Landrigan, 2003, n.p.).

The operational vitality of nursing homes can also be affected by the substantial costs associated with work-related MSDs. Injuries among nursing home employees have been identified as a factor that contributes to job dissatisfaction and high turnover rates among these workers (Health Resources and Services Administration, 2004). These negative outcomes are compounded due to a labor supply shortage among the direct care workforce (McConnell, Lekan, & Corazzini, 2010; Smith & Baughman, 2007).

The costs that nursing homes must bear to administer ergonomics programs should also be considered. Costs for a single administrator to manage an ergonomics program have been reported as averaging four to eight hours per month in time and \$475 per year for training, with substantially higher annual costs reported to train non-



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managerial employees (Humantech, 2014). The cost could be substantial for a nursing home to obtain professional guidance for managing an ergonomics program, as the median salary for a professional ergonomist was found to be \$75,000 per year (Payscale, 2015).

Nursing home administrators, occupational safety and health professionals, and others interested in protecting direct care workers from injury and in optimizing nursing home operations may be guided by the findings of this study toward the development of more effective ergonomics programs. The development of more effective ergonomics programs offers the opportunity to reduce the occurrence and severity of MSDs, and the negative repercussions they present to workers and employers.

### **Limitations of Study**

There are several potential limitations that exist within the design of this study. These include a lack of generalizability to nursing homes not included in the study, validity concerns, measurement biases, data errors, and potential non-sampling errors. Further details on the limitations of this study are discussed in Chapter 3.

### **Definition of Terms**

A number of terms applicable to this study may not be well known, and others may be used inconsistently in various sources. The following series of definitions help clarify these terms:

*Direct care workers* refers to a group of workers in the healthcare industry whose duties share in common the performance of tasks directly for patients or residents who reside within established facilities, such as hospitals or nursing homes. There is some ambiguity in the literature as to what direct care workers are and are not. Some sources

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note that direct care workers may include home health aides, personal care aides, and certified nurse aides (Paraprofessional Healthcare Institute [PHI], 2013). Other sources add occupations such as registered nurses and licensed practical nurses (Hurtado, Sabbath, Ertel, Buxton, & Berkman, 2012). Still other sources further include “physicians, therapists, and administrators, and paraprofessional staff (e.g., certified nurse aides [CNAs]) who provide the bulk of care on a day-to-day basis” (Miller, Wang, Zhanlian, & Mor, 2012, p. 470). For the purposes of this study, *direct care workers* refers to nurses, nurse aides, and orderlies, as their daily work most typically involves the moving and handling of residents in nursing homes.

*Ergonomics*, within the field of occupational safety and health, is perhaps best defined as the study and applied science involved in “preventing those workplace injuries and illnesses that result when job processes, procedures, equipment and facilities have not been designed with people in mind” (Kohn, 1999, pg. 1). The term *ergonomics* is also used synonymously with others like human factors, human engineering, and engineering psychology (Proctor & Van Zandt, 2008).

*Ergonomic hazards* are conditions, actions, and materials that contribute to a greater likelihood of the occurrence of an MSD (Comcare, 2014). Ergonomics considers the interaction between the worker (physically and psychologically) and his/her work (including tasks and operating environment). This interaction can be described as existing on a continuum of fit, with a good fit at one end, and poor fit at the other extreme. A poor worker-work fit constitutes an ergonomic hazard, and is most strongly associated with worker injuries (Baker & Moehling, 2013; Kroemer & Grandjean, 1997).

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*Musculoskeletal disorders (MSDs)* are defined by OSHA as “injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs” (1999, pg. 66076). MSDs relevant to tasks that are associated with moving and handling residents involve the anatomy of the shoulder and upper neck, and include injurious conditions such as tension neck syndrome, shoulder tendonitis, and low-back pain (Bernard, 1997). Among direct care workers, low back pain is a common symptom indicative of a MSD (Smith & Leggat, 2004). Terms such as *occupational overuse syndrome* and *cumulative trauma disorder* are closely associated with, if not synonymous, with MSDs (DiNardi, 1998, pg. 716).

*Nursing homes*, residential care facilities, and long-term care facilities are referred here collectively as *nursing homes*. These facilities are classified by the North American Industrial Classification System within industry code 623000. (Executive Office of the President, 2017, pp. 101-102).

*Occupational injuries and illnesses* are used here in the same way as they have been defined in OSHA's Recording and Reporting Occupational Injuries and Illness regulation, 29 CFR 1904.46(3), as “an abnormal condition or disorder. *Injuries* include cases such as, but not limited to, a cut, fracture, sprain, or amputation” (OSHA, 2001, p. 6135). *Illnesses* are health conditions such as cancer, hearing loss, and organ damage. Throughout this study, the term *occupational injuries* has been used for the purpose of simplicity, but should be understood to also include *occupational illnesses*, as well.

CHAPTER 2: LITERATURE REVIEW

**Introduction**

This chapter provides a review of the literature applicable to this study. It begins by focusing on the nature of the work carried out by direct care workers, including their typical work duties, as well as problems that beset the workforce such as an undersupply of labor and high turnover rate. Thereafter, this chapter discusses occupational injuries among direct care workers in terms of causative factors, current injury rates, and future outlook. Then, this chapter details the system of recording and maintaining occupational injury data by employers on OSHA forms. Next, this chapter provides a description regarding development of how ergonomic hazards have been recognized and control methods, including ergonomics programs, have been developed. Chapter 2 then concludes with a discussion of the need for this study.

**Direct Care Workers**

**Nature of Direct Care Work.** The vital work of caring for nursing home residents falls primarily on direct care workers. These workers hold positions designated as nurse aides, orderlies, licensed practical nurses, and registered nurses. Nurse aides' duties include personal care tasks, such as grooming, transferring, positioning, and basic restorative skills, such as turning and positioning residents in their bed (Office of Inspector General, 2002). Orderlies are less likely to provide personal care to residents, but instead typically transport residents and clean equipment and facilities (Bureau of Labor Statistics, 2014a). Licensed practical nurses' duties involve basic healthcare provision, such as monitoring vital signs, but may also include helping residents dress or bath (Bureau of Labor Statistics, 2014b). Registered nurses perform complex healthcare

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tasks, and may oversee orderlies, nurse aides, and licensed practical nurses in the nursing home. Registered nurses' duties may involve lifting and moving residents, though relatively less so than other direct care workers (Bureau of Labor Statistics, 2014c).

**A Troubled Workforce.** Direct care workers comprise a troubled occupational group. Nursing home operators report that they have been unable to attract and retain sufficient numbers of direct care workers (Bowers, Esmond, & Jacobson, 2003). For example, nurses were found to be at an undersupply of 6% and related nursing professions are understaffed as well (Center for Health Workforce Studies School of Public Health, 2006). The labor undersupply has been attributed in part to demographic trends that indicate fewer working-age persons will be available to care for an expanding population of elderly persons (Health Resources and Services Administration, 2004). The labor undersupply is particularly significant for rural states like Kentucky, where conditions such as geographic isolation, limited means for transportation, and higher proportions of elderly citizens may act to exacerbate the problem (Brown, Lash, Wright, & Tomisek, 2011).

Compounding the labor undersupply is a high turnover rate among nurse aides, ranging from 66% to 100% (American Health Care Association, 2008). Compensation is meager, with the median annual wage for nursing aides, orderlies, and attendants being approximately \$24,000 (Bureau of Labor Statistics, 2014a). Low morale among direct care workers has also been described as a substantial problem (Blair & Glaister, 2005). Although the interrelationships between labor undersupply, turnover, wages, and morale are beyond the scope of this study, it is important to note that understaffing has been

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linked to higher levels of work-related injuries among direct care workers (Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012).

### **Prevalence of Occupational Injuries**

The moving and lifting of residents is physically demanding work. Some residents need help getting into and out of wheelchairs, while others must be completely lifted in and out of their beds. The difficulty of resident handling and lifting becomes evident when considering that residents may outweigh their caregivers substantially. As a result, direct care workers are at an elevated risk of developing musculoskeletal disorders (Menzel et al., 2007; Rice, Dusseau, & Miller, 2011). Nelson et al., (2006) explained:

Patient handling tasks are considered high-risk, due to the magnitude of weight lifted, awkwardness and unpredictable nature of the load lifted (patient), and sustained awkward positions used to provide nursing care, such as bending over beds or chairs while the back is flexed. (p. 26)

Further, resident moving and lifting-related tasks may be repeated throughout the work shift. As repetitious, exertive work is recognized as an ergonomics hazard (Keyserling, Stetson, Silverstein, & Brouwer, 1993), direct care work should be understood to be substantially hazardous.

The outcomes of the hazardousness of direct care work are reflected in occupational injury and illness data (Bureau of Labor Statistics, 2016a). Nationally, nursing homes and other residential care facilities have seen comparatively high rates of nonfatal injuries and illnesses, with a 2015 rate the of 6.8 cases per 100 full-time employees, for privately-operated nursing home facilities, compared to the overall rate of 3.0 for all private sector industries. Bureau of Labor Statistics data specific to Kentucky

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indicate a problem of greater scale, as private sector nursing and residential care facilities in the Commonwealth reported an injury rate of 8.1 (Bureau of Labor Statistics, 2015b). Worse, for nursing homes operated by state government, the injury rate was 8.4 cases per 100 full-time employees, and those operated by local governments experienced the highest rate, at 11.1.

The number and severity of MSD-related injuries and illnesses experienced by direct care workers is likely to increase due to a convergence of factors (MNA, 2006). First, because the median age of the general population is increasing, it is anticipated that direct care workers will remain in the workforce longer than previous generations. This will likely result in an increasingly longer duration of exposure to ergonomic hazards. Relatedly, as employees increasingly work into advanced age, their bodies will be more physically degraded due to the natural aging process. Also, as residents live longer lives, they will remain in nursing home facilities longer, requiring more years of direct care. Finally, due to a trend of increasing obesity rates among the general population, residents will be heavier on average, increasing the strenuous nature of moving and handling them.

### **Tracking Occupational Injuries and Illnesses**

The national system for tracking occupational injuries and illnesses, the Survey of Occupational Injuries and Illnesses, is administered by the Bureau of Labor Statistics. Most employers are required to keep annual records concerning work-related injuries and illnesses experienced by their employees under 29 CFR 1904 (OSHA, 2001). Annually, the Bureau of Labor Statistics gathers this data from a sample of employers nationally. The data are subsequently compiled and made available publicly (Bureau of Labor Statistics, 2016b).

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The recordkeeping regulation enforced by OSHA under 29 CFR 1904 carries several requirements designed to help ensure data accuracy (OSHA, 2001). For example, only injury and illness incidents of a substantial nature are to be recorded by employers. These recordable incidents include those sufficiently severe as to result in death, render an employee unable to work or only able to work with restrictions, require medical treatment, or result in one of several narrowly defined outcomes, such as hearing loss. Incidents which are less severe, such as those requiring only first aid treatment, are not recordable incidents and are not to be included in the data.

Data are maintained by employers on dedicated forms titled *OSHA 300*, *300A*, and *301* (OSHA, 2001). To help further ensure accurate data collection, OSHA provides to employers a number of instructional guidance documents and webpages, as well as direct assistance via email and telephone. For the purposes of keeping data on *OSHA 300*, *300A*, and *301* documents, instances in which employees experience work-related MSDs may be recorded as either injuries or illnesses (OSHA, 2002, p. 77167). OSHA has issued notices regarding how to record MSDs, directing that employers should "check either the 'injury' or the 'all other illness'" column, as appropriate.

### **Recognition of Ergonomic Hazards**

The prevention and control of MSDs in the workplace has been an occupational safety and health concern for some time. Important developments relative to ergonomics in general include publications such as NIOSH's *A Work Practices Guide for Manual Lifting* in 1981 (OSHA, 1999), and OSHA's *Ergonomics: The Study of Work*, in 1991 (OSHA, 1999). In recognition of the need for regulation of ergonomic hazards, OSHA began the process of drafting an ergonomics regulation in 1992 (OSHA, 1999).



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Specific to direct care workers, the Institute of Medicine (1996) found that nurse aides were at an elevated risk of experiencing MSDs such as back injury. As part of its findings, the Institute of Medicine called for measures to prevent MSDs, such as more aggressive training on resident lift devices and lift teams (especially for new hires), annual training regarding the lift and transfer of residents, and the development of programs intended to reduce such injuries. Thereafter, an Office of Inspector General's survey of nearly 1,000 nurse aides recommended more pre-professional training regarding the lifting of residents (Office of Inspector General, 2002).

Healthcare industry groups, such as the American Nursing Association (ANA), have also sought to address MSDs. The ANA's *Handle with Care* campaign, launched in 2006, called on administrators to support the implementation of safe patient handling practices, such as the use of resident lifts, and for changes in nursing schools' curricula to enhance training for preventing injuries (De Castro, 2004). That same year, NIOSH published a guide specifically targeted at direct care staff of nursing homes that also called for the use of lifting devices and associated training (NIOSH, 2006).

A holistic assessment of the national healthcare system by the Institute of Medicine's *Retooling for an Aging America: Building the Health Care Workforce* (2008) addressed the risks to direct care workers from MSDs. In this report, the Institute of Medicine called for the provision of annual training on resident lift devices and mentioned adherence to OSHA's guidelines for the prevention of MSDs.

The Centers for Disease Control and Prevention (2012) collected a wealth of national data in 2004-2005 with its *National Nursing Assistant Survey*. The survey involved responses from 3,017 nurse assistants over a number of measures, and included

information on work-related injuries. Upon analysis, the findings indicated that more than half of the nurse aid respondents had incurred at least one work-related injury within the past year and almost one quarter were unable to work for at least one day due to injury (Squillace et al., 2009).

### **Approaches to Injury Prevention and Control**

The hierarchy of controls. Within the field of occupational safety and health, a recognized approach to controlling hazards is referred to as the hierarchy of controls (NIOSH, 2017). This approach “systematically identifies hazards and prioritizes intervention strategies” (De Castro, 2003, pg. 104). Three broad categories of controls are prescribed to address all types of workplace hazards, which are given in a descending hierarchy of preference, as follows: engineering controls, administrative controls, and personal protective equipment.

The hierarchy of controls holds that, whenever feasible, engineering and administrative controls should be utilized, even if they do not completely control or eliminate a hazardous condition (OSHA, 2005). A diagram of the hierarchy is seen in Figure 2.1. The hierarchy of controls is applicable to any type of workplace hazard, but is discussed here only within the context of resident moving and handling.

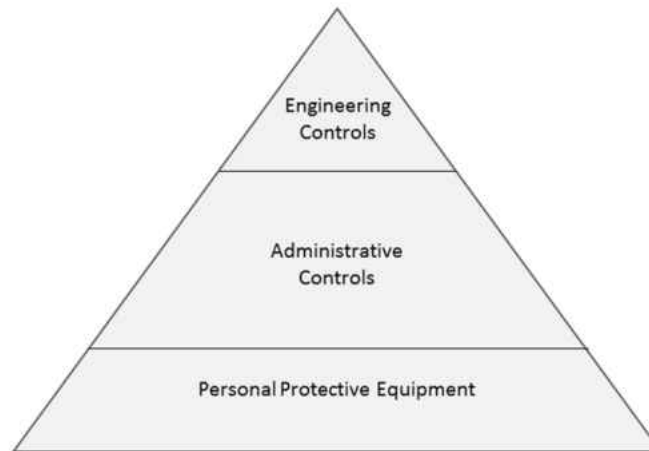


Figure 2.1. The Hierarchy of Controls.

**Engineering Controls.** The use of engineering controls is the preferred method of hazard control because it applies to the workplace environment, materials, and processes (McCauley-Bush, 2011). Examples of engineering controls include workstation modifications and the use of specialized tools to reduce the negative impact of repetitive motion, high force, awkward postures, and their combined effects (Hagan, Montgomery, & O'Reilly, 2001).

Engineering controls have been developed to specifically address the ergonomic hazards associated with moving and lifting residents. For repositioning a resident in a bed, devices that reduce friction, such as slide boards, draw sheets with handles, and air-assist lateral transfer devices, may be used. For helping partially-ambulatory residents, powered sit-to-stand chairs, lift chairs, and toileting chairs are available. Mechanical lifts, either wheeled or ceiling-mounted, can be used to help move residents who are completely dependent (OSHA, 2008).

**Personal Protective Equipment.** Personal protective equipment (PPE) are items that employees wear to help minimize the potentially injurious effects from a workplace

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hazard. Common examples of PPE include gloves, safety glasses, and hard hats. For direct care workers, there are few viable options for PPE. Supportive back belts were once used by employees during moving and lifting tasks to prevent back injuries, but there exists no evidence that the devices provide any protective benefit (Ammendolia, Kerr, & Bombardier, 2005).

**Administrative Controls.** Administrative controls include the use of work practices, provision of education and training, and policies and programs that reduce or prevent employee exposure to hazards (NIOSH, 2008). Administrative controls used in nursing homes to prevent and control ergonomics hazards may include stretching and warm-up exercises, employee education and training programs, and proper care and maintenance of resident lifts and similar mechanical devices. An ergonomics program is an example of a comprehensive administrative control. Ergonomics programs may also include the integration of engineering controls, as well (Garg & Kappellusch, 2012; Orr, 1997)

**Ergonomics Programs.** The purpose of an ergonomics program is similar to that of most any safety program, which is to help management officials develop and conduct activities that act to prevent accidents, injuries, and illnesses (Hagan et al., 2001). Over time, the use of the term *ergonomics program* has been joined by similar terms in applicable literature. Perhaps this is because a *program* has been construed as something produced and implemented, but which may in time become idle and of limited long-term efficacy.

Alexander (1986) noted that once implemented, an ergonomics program would have only finite benefits, and that only an ongoing “ergonomics effort” (pg. 360) would

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allow for sustained positive effect. The term “*process* refers to a set of ongoing and interrelated activities” (Robbins, Decenzo, & Coulter, 2013, pg. 6), and conveys the sense that efforts at controlling ergonomic hazards require a dynamic and ongoing methodology. Indeed, several authorities present the programmatic control of ergonomic hazards as a process (Khon, 1999; Kilbom & Petersson, 2006). OSHA pointed out that “the occupational safety and health community uses various names to describe systematic approaches to reducing injuries and illnesses in the workplace” (2012d, p. 1). The term *ergonomics program* was used, for the purposes of this study, but it should be understood to include the ongoing evaluative element integral to the notion of an ergonomics process. This is consistent with the NIOSH/OSHA model used by this study, which includes an evaluative element.

Studies concerning the use of ergonomic programs specific to healthcare worksites have shown that they are effective at reducing injuries and illnesses. For example, a study by Nelson et al. (2006) indicated that an ergonomics program with the following elements: “ergonomic assessment protocol, resident handling assessment criteria and decision algorithms, peer leader role, back injury resource nurses, state-of-the-art equipment, after action reviews, and no lift policy” (pg. 719) resulted in a significant reduction in the rate of MSDs among nurses. Similarly, an ergonomics program for nursing home workers that combined the use of mechanical lifts and repositioning aids, a zero lift policy, and employee training appeared to lead to a substantial reduction in injuries (Collins et al., 2004).

The suggested elements of an ergonomics program can be found in differing combinations. DiNari recommended that an ergonomics program include an ergonomics

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team with representatives from the various departments of the facility, an established training schedule for both managers and workers, and a medical surveillance component to determine the program's effectiveness (1998). Hagan, Montgomery, and O'Reilly (2001) considered management commitment and support of the ergonomics program to be vital, along with case management of MSDs, and the education and training of personnel. They also emphasized that an ergonomics program should include a process improvement feature, which includes a continuum of assessment, planning, execution, and verification.

NIOSH's seminal publication, *Elements of Ergonomics Programs*, posited a number of elements necessary for an effective program. Interestingly, these elements were presented as a sequential "pathway" (Cohen et al., 1997, pg. vii). First in the pathway is the verification of the presence of ergonomic hazards, as evidenced by the occurrence of work-related MSDs among employees. Second, management must commit to the program and employees should be involved. The third step involves the building of expertise among staff through training and access to applicable resources. Fourth in the pathway is the collection and evaluation of data, including OSHA injury and illness logs and medical examinations, to characterize the nature of ergonomic hazards present in the workplace. The fifth step employs the data collected to develop appropriate administrative and engineering controls and evaluate their effectiveness. The penultimate step involves the medical management of the MSDs experienced by employees. This step sets forth responsibilities for employers, employees, and health care providers for "early detection, prompt treatment, and timely recovery" of MSD cases (Cohen et al., 1997, pg.

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39). The final step requires that the effectiveness of the program be evaluated and revisions made on an ongoing basis.

After providing guidance for over two decades, OSHA acted in 2000 by issuing a regulation that specifically required that most employers address ergonomic hazards in their workplace. In *Ergonomics Program; Final Rule*, the agency included a mandate that employers' ergonomics programs include provisions for employee participation, job hazard analysis and control, employee training, management of MSDs, and a means of program evaluation (OSHA, 2008). It should be noted that these program elements closely align with those presented in NIOSH's *Elements of Ergonomics Programs* (Cohen et al., 1997). Although OSHA's regulation was ultimately undone by Congressional revocation, OSHA continues to provide guidance regarding the control and prevention of ergonomics hazards.

OSHA's publication, *Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders* (2008), endorsed an ergonomics program nearly identical to that carried by its revoked regulation. The guidelines are presented as seven fundamental components of an ergonomics program for nursing homes to implement: 1) provide management support; 2) involve employees; 3) identify problems; 4) implement solutions; 5) address injuries; 6) provide training; and 7) evaluate ergonomic efforts.

### **Need for Study**

For businesses and larger society dependent on the labor force, occupational injuries and illnesses constitute a meaningful threat to productivity and economic viability. Comprehensive estimates of the financial impact of occupational injuries are rare, but one study indicated that for 2007 "total estimated costs were approximately

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\$250 billion” (Leigh, 2011). Recent estimates of the cost of occupational injuries within the nurse home industry are not available, but data on workers’ compensation claims indicates that for the period of 1993-2005, the average frequency of claims at nursing homes and retirement facilities is double that of the average for claims in the private sector (Restrepo, Shuford, & De, 2007).

Occupational injuries suffered by direct care workers have been shown to result in absenteeism and work restrictions (Lemo et. al., 2012). Dockrell, Johnson, Ganly, and Bennett (2011), whose study of workers’ compensation claims found that 91% of claimants took sick leave following an injury, with 52% taking leave lasting more than 52 weeks in duration, giving some perspective on the gravity of absenteeism stemming from employee injuries resultant from resident moving and handling.

For the workers who may be so unfortunate to experience an incident, occupational injuries and illnesses are serious concerns. Victims often face longer-term consequences, such as lost wages and reduced earning capacity, beyond experiencing physiological trauma (Boden, 2005). Also, employees who suffer injuries have been found to be more likely to sufferer from depression (Asfaw & Souza, 2012). Adding to the troubles experienced by injured workers are indications that they may experience discrimination from their peers and superiors, and contend with subpar services from healthcare providers and workers’ compensation carriers (Eggert, 2010).

The negative impacts that result from occupational injuries on both nursing homes and individual direct care workers make it imperative that nursing homes implement effective ergonomic programs. This study is needed to help guide nursing home administrators, occupational safety and health professionals, and others tasked with



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developing, implementing, and managing ergonomics programs in nursing home facilities.

CHAPTER 3: METHODOLOGY

**Introduction**

This chapter restates the purpose of the study and research questions, as well as describe the research design and methodology. Chapter 3 also contains details regarding the following research aspects of interest to the study: variables, sample, data sources, instrumentation, data collection, and analysis. The chapter concludes with details regarding the potential limitations affecting the study.

**Purpose**

The purpose of this study was to gain a better understanding about ergonomics programs utilized by Kentucky's nursing homes. A review of literature found a lack of information to indicate how many nursing homes in Kentucky have an ergonomics program in place for their direct care staff. Further, information could not be found to indicate how closely ergonomics programs administrated by these nursing homes follow the NIOSH/OSHA model. Likewise, no data was available to indicate what relationships exist between the elements of these ergonomics programs and the MSD rates for direct care workers resultant from resident care tasks. Three research questions were developed to address these issues.

**Research Questions**

This study investigated the following research questions:

1. How many nursing homes in Kentucky have implemented ergonomics programs for controlling work-related musculoskeletal disorders (MSDs) among their direct care employees?

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2. How closely do the ergonomics programs in place in Kentucky's nursing homes follow the NIOSH/OSHA model?
3. What are the relationships between the ergonomics programs in place in Kentucky's nursing homes and rates of MSDs that occur among direct care workers resultant from resident care tasks?

### **Research Design**

This study was designed to be cross-sectional due to the expansive time periods over which data concerning occupational injuries are recorded by employers. It is of a non-experimental, quantitative design, that includes both descriptive and inferential aspects. Due to its quantitative design, descriptive statistics could be calculated regarding data of interest to the study, such as the frequency of nursing homes which had ergonomics programs, the mean rate of MSDs occurring among nursing homes, and others. As data was collected randomly, inferences could be made regarding from sample data regarding the larger population of nursing homes.

### **Variables and Measures**

Variables of interest to this study are described here in relation to each research question. For the first research question regarding how many nursing homes have implemented ergonomics programs, the variable of interest was the number of nursing homes that had ergonomics programs in place. To measure this variable, a questionnaire was used that posed to the subjects of the study the following question: "Does your facility have an ergonomics program for nurses, nurse aides, and orderlies?" Available responses were, *Yes*, *No*, and *I don't know*. Data collected for this variable were reported as findings in Chapter 4.

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The second research question involved seven variables that corresponded to the seven elements of an ergonomics program specified by the NIOSH/OSHA model. These variables, stated in general terms, involved the following aspects of an ergonomics program: provision of management support, involvement of employees, identification of problems involving ergonomics issues, implementation of solutions, addressing of ergonomics-related injuries which have occurred, provision of applicable training, and evaluation of efforts associated with the ergonomics program.

To measure these variables, each was operationalized as a statement, to which subjects were asked to respond. Respondents were asked to choose from a series of five responses the one that best described the program element for their particular nursing home. The statements used were as follows:

- Management at my facility supports our ergonomics program.
- Employees at my facility are involved in our ergonomics program.
- My employer acts to identify ergonomics problems.
- My facility has implemented controls to prevent ergonomics injuries.
- My employer provides ergonomics training.
- My facility has procedures to address ergonomics-related injuries and illnesses that occur.
- My employer evaluates ergonomics program effectiveness.

Each of these statements required that subjects choose from one of the following responses: *Strongly Agree*, *Agree*, *Neutral*, *Disagree*, or *Strongly Disagree*.

To allow for analysis of the data collected for these seven statements, responses were scaled with nominal values as follows: Strongly Agree = 1, Agree = 2, Neutral = 3,

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Disagree = 4, and Strongly Disagree = 5. Note that a response of *Strongly Agree* are understood to indicate an ergonomics program element that most closely follows the NIOSH/OSHA model element. For example, a response of *Strongly Agree* to the statement, "My employer provides ergonomics training." indicated that the subject nursing home's ergonomic program most closely followed the NIOSH/OSHA model ergonomics program, relative to this program element. Following the collection of response data, descriptive statistics were utilized and reported as findings in Chapter 4.

Research question 3 sought to explore the relationships that might have existed between nursing homes' ergonomics programs and the MSD rates that occurred among direct care workers due to resident lifting and handling tasks. Along with the variables corresponding to the seven ergonomics program elements of the NIOSH/OSHA model discussed above, a variable for the MSD rate was calculated.

The calculation of MSD rate involved the collection of two types of numeric data concerning direct care workers: the count of MSD cases and number of hours worked. Using these two data sets, a MSD rate was calculated as follows:  $\text{number MSD cases} \times 200,000 / \text{number of hours worked} = \text{MSD rate}$ . 200,000 hours is based on the equivalent of 100 employees working 40 hours per week, 50 weeks per year (Bureau of Labor Statistics, 2013). Descriptive statistics, as well as regression analyses for these variables, were reported as findings in Chapter 4.

### **Sample Population**

This study sought to gather data from a representative sample of what the researcher considered to be the population of all the nursing home facilities in Kentucky. The population of 272 nursing home facilities was reported on a list maintained by the

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Cabinet for Health and Family Services (CHFS). This listing included both privately-owned facilities as well as those administered by state and local government agencies.

### **Data Sources**

The list of all nursing home facilities in Kentucky used for the study was obtained from CHFS. The list provided the following information for each facility: facility name, name of contact person, email address, telephone number, and mailing address. A copy of the CHFS facility list is found in Appendix A.

### **Data Sought**

Data sought for this study fell into two categories: 1) data associated with nursing homes' ergonomics programs, and 2) data associated with MSD cases which were experienced by their direct care staff and were resultant from resident moving and handling tasks. All data collected by this study were limited to the 2015 calendar year.

**Data Concerning Ergonomics Programs.** This study asked nursing homes to report whether or not their facility had an ergonomics program to control work-related MSDs among their direct care staff members. In addition, these subjects were asked to respond to a series of seven items/statements designed to help determine how closely their nursing home's ergonomics program aligned with the NIOSH/OSHA model's seven elements.

The likelihood was good for this study to obtain data on ergonomics programs because the nursing home industry was aware of the use of ergonomics programs for the control and prevention of work-related injuries among staff members (Graham & Dougherty, 2012; Kurowski, Gore, Robert, Kincaid, & Punnett, 2017). More specifically, indications were found in the literature that the nursing home industry was familiar with

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the seven program elements provided by the NIOSH/OSHA model, as well (Nathenson, 2004; Strobe, 2003; Weber, 2006).

**Selection of Ergonomics Program Elements.** The seven ergonomics program elements that comprise the NIOSH/OSHA model were described in OSHA's *Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders* (2008). These were selected as variables for this study for several reasons. First, the context of OSHA's aforementioned publication specifically applied to nursing home worksites, directly aligning with this study's population of interest. Second, the seven elements were the basis for the seminal NIOSH publication: *Elements of Ergonomics Programs: A Primer Based on Workplace Evaluations of Musculoskeletal Disorders* (Cohen et al., 1997), which is widely recognized within the occupational safety and health profession as an essential guide to ergonomics programs.

The seven program elements were incorporated within OSHA's now-revoked ergonomics standard, *Ergonomics Programs* (OSHA, 2000). During the promulgation of the standard, OSHA conducted a complex process of research and development that led the agency to include the same program elements in the final version of its standard. OSHA's research process included the collection of input from industry stakeholders, reports from other agencies, and consensus group endorsements (OSHA, 1999). Significantly, NIOSH supported OSHA's selection of the seven ergonomics program elements, "based on the extensive practical experience accumulated by NIOSH in conducting investigations in actual workplace settings, providing technical assistance to employers and workers, and evaluating the scientific and technical literature" (NIOSH, 2000, p. 19).

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Finally, the seven ergonomics program elements that have been identified here as the NIOSH/OSHA model were chosen for this study because OSHA's policies and positions relative to ergonomics are recognized by the nursing home industry (Boehm, 2012; Connole, 2011). This indicates that the use of the NIOSH/OSHA model's elements should lend credence to the findings of this study among the nursing home industry.

**Data Associated with MSDs.** Nursing homes were also asked to provide the number of MSD cases that were known to have occurred among their direct care staff members and were attributed to resident moving and handling work tasks. There was a good expectation that these data would be available for the study, as nursing homes with 10 or more employees were mandated to keep records of these incidents under OSHA's standard at 29 CFR 1904 (OSHA, 2001).

Under this regulation, records must be maintained on standardized forms provided by OSHA or by equivalent methods. The forms of utility to this study were the *OSHA 300 Log of Work-Related Injuries and Illnesses* and *OSHA 301 Injury and Illness Incident Report*. Collectively, these documents captured the details of work-related injuries and illnesses suffered by employees in each nursing home facility. Included on these records were the details of each incident that could include the nature of the resultant injury or illness, number of days missed from work by the affected employee, and/or number of days he or she had to work while on restricted work duty due to the incident.

When providing data for this study, subjects were asked to refer to their *OSHA 300 Logs*, and they were also advised to refer to applicable *OSHA 301 Reports* or other similar records as necessary. This was to ensure that data gathered pertained only to the



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type of MSD cases of interest to the study. *OSHA-300* and *301* documents may contain personally identifiable information, but data requested for the study did not include this type of information, so individual privacy was not a concern.

**Data Concerning the Direct Care Labor Force.** In order to allow for the calculation of the MSD rate variable, nursing homes were asked to provide data regarding their direct care labor force. These data concerned the number of direct care staff employed at the nursing home as well as the total number of hours that these employees worked, including overtime hours. It is likely that nursing homes can provide this data from payroll and associated human resources records maintained at the facility.

### **Data Collection**

**Instrumentation.** Data for the study were collected with a survey instrument in the form of a questionnaire constructed using SurveyMonkey software. The questionnaire consisted of 11 items; the first three were questions that were designed to collect data regarding MSD cases and hours worked by the nursing home's direct care labor force. Thereafter, a single question asked if the nursing home had an ergonomics program. The questionnaire concluded with seven items that collected scaled responses regarding the seven elements of the subject nursing home's ergonomics program.

The questionnaire collected data through two possible methods. For the first, the subjects entered their responses to the questionnaire directly onto the SurveyMonkey website. In second method, the researcher entered the data onto the SurveyMonkey website.

For the first method, the data collection process was initiated by sending each subject an email that communicated the basic details of the study and informed the

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subject of their option to consent to participate in the study. The email ensured subjects' consent to participate by including a hyperlink that lead to the questionnaire located on the SurveyMonkey website. Subjects indicated their consent by electing to follow the hyperlink. If they elected to decline to participate, then the subject needed only to exit the study before closing the browser window or delete the email. Those wishing to participate in the study would instead follow the hyperlink and be directed to the questionnaire on the SurveyMonkey website for completion.

For the second method, the researcher contacting the subject by telephone interview to collect data. At the onset of the conversation, the details of the subject's consent to participate in the study were delineated to ensure that the subject was duly informed. If the subject elected to participate in the study, the researcher then read the questionnaire to the subject, and entered the responses for each item directly into the SurveyMonkey internet database during the course of the interview.

**Pilot of Questionnaire.** In advance of the study, a pilot study was conducted. Pilot studies are often employed in order to assess a study's design, feasibility of recruitment methods, sample randomization, and other elements (Van Teijlingen & Hundley, 2001; Leon, Davis, & Kraemer, 2011). The pilot study was performed on a randomly-selected sample of 23 subjects from the population of 304 nursing home facilities provided on the CHFS facility list. The pilot study was initiated by sending an announcement email to solicit interest. The announcement gave details for the informed consent for the study, a description of the study's parameters, and noted that a subsequent email containing the questionnaire would be sent within a week. The announcement email also tested the quality of the email addresses for the nursing home facilities. As a

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result, four email addresses were found to be faulty. These were excluded from further use in the study.

Another issue that the pilot produced involved the response by one subject to the announcement email, in which the recipient noted that he/she was no longer an employee of the facility. Nonetheless, this individual sent a correct email address to be used to contact the facility. The correct email address for the facility was not used further in the pilot study, but was included in the larger study later.

Thereafter, a recruitment email, which carried a link to the pilot study questionnaire, was sent to the 18 nursing homes that were considered viable out of the original group of 23. This email included information on the consent to participate, as well as a request that the respondents contact the researcher if they had encountered any problems with the pilot study questionnaire. No emails were received in response.

For the recruitment email, SurveyMonkey reported that 10 of the emails sent were not opened, eight were opened, and, in five of the eight emails that were opened, the recipient went so far as to open the questionnaire. Of the 18 emails sent, only one questionnaire was fully completed and another was partially completed. Approximately one week later, the researcher sent a reminder email to encourage participation.

To understand why the response rate was so low, the researcher attempted to contact via telephone would-be participants at all of the 16 nursing homes who did not respond at all to the pilot study email. Only 10 non-responders could be contacted. In speaking with persons at each nursing home, the researcher discovered that in four cases, the email that was used was associated with an individual who was no longer employed

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at the facility, and that in four other cases, the email address used was for someone who was not the appropriate person to complete the questionnaire.

During one telephone conversation, one non-responder agreed to complete the survey and did so shortly thereafter. In another case, the subject who did not fully complete the pilot study questionnaire allowed the researcher to gather the remaining data over the phone. As a result of these efforts, data from three complete surveys was collected. During the telephone conversations conducted during this part of the study, subjects were asked for suggestions to improve the survey, and two subjects remarked they found the time required to complete the survey to be too long. As a result, the questionnaire was subsequently shortened.

One challenge to the data collection methodology utilized by the pilot study revealed that the nursing home contact list provided by CHFS carried a number of email addresses for individuals who were not ideal for receipt of the recruitment email (i.e., the Chief Operating Officer received the email, when the Human Resources Manager would be more appropriate for response). To attempt to remedy this issue, revisions were made to subsequent recruitment emails, which carried additional directions designed to help guide the email to the most appropriate person within the nursing home facility. Also, the recruitment script to be included in the subsequent emails was revised to inform the recipient that the nursing home's Human Resources Manager or Safety Manager would likely be able to provide the data requested by the questionnaire.

The pilot study revealed another issue involving items 37, 38, and 39 of the questionnaire. These items requested that the subject provide data concerning the number of MSD cases, number of full-time direct care staff, and the number of hours worked by

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these employees. These items were the only ones omitted by the one respondent who did not fully complete the survey. Since, these data were highly important to research questions 2 and 3 of the study, the survey was revised to move the questions to the beginning of the questionnaire, renumbered as items 1, 2, and 3, respectively.

Lastly, it was discovered during a telephone conversation that the CHFS contact list of nursing homes included a category of facilities referred to as *Freestanding Personal Care Homes*. These facilities carry many monikers, such as *boarding homes*, *assisted living facilities*, and others (Mollica, Houser, & Ujvari, 2012). The researcher learned that these facilities utilize direct care workers to a much lesser degree (or not at all) than nursing home-type facilities typically do. As a result, this type of facility was excluded from the study, bringing the population of interest down to 272. Copies of the announcement, recruitment, and reminder emails for the pilot study are found in Appendix B.

### **Questionnaire Version 1 (Pilot)**

During the course of the study, three versions of the questionnaire were utilized. Version 1 was used in the pilot study, as previously discussed. It included directions and 39 items, and it was organized into three parts. Part 1 included one question concerning the use of an ergonomics program, and 35 other items designed to determine how closely the nursing home followed the NIOSH/OSHA model. Part 2 contained a single item designed to collect the number of MSD cases. Part 2 also included examples of an *OSHA 300 Log* and *OSHA 301 Report* to help guide subjects toward providing the correct data. Part 3 of the questionnaire was comprised of two items that allowed for the collection of

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the number of direct care employees and number of hours worked by these employees.

Version 1 of the questionnaire is found in the Appendix B.

### **Questionnaire Version 2**

Following the pilot study, changes to the questionnaire included moving and renumbering items involving MSD cases, number of direct care employees, and hours worked, to the beginning of the instrument. These became items 1-3. Items involving nursing home ergonomics programs were then found at the end of the survey, becoming items 4-39. Version 2 of the questionnaire was then emailed to 270 nursing homes, representing the entire population of the study.

Subjects were sent a recruitment email requesting their participation in the study, and carried the same consent details and mechanism as used in the pilot study. This email also requested that the recipient complete the questionnaire fully and asked that the recipient provide the researcher a better email contact for the facility, if appropriate. To encourage participation, a reminder email was sent two weeks afterward, which asked recipients to complete the questionnaire, if they had not yet already responded.

SurveyMonkey's reported data for the Version 2 email invitation indicated that of the 270 emails sent, 78 were opened, 182 were unopened, and seven were returned as undeliverable. Four questionnaires were fully completed and one was left partially completed. Copies of Version 2 of the questionnaire, recruitment email, and reminder email are found in Appendix C.

### **Questionnaire Version 3**

Due to the minimal response to Version 2 of the questionnaire, the questionnaire was revised a final time by reducing the number of items. The researcher expected that a

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substantial reduction in the number of questionnaire items would result in an increased response rate. The revision was limited to questionnaire items that involved the elements of ergonomics programs, corresponding to items 5-39 of Version 2.

These were consolidated from 35 down to 7 items, each of which corresponded to the seven elements from the NIOSH/OSHA model ergonomics program. For example, Version 2 carried a series of five sub-items concerning aspects of the management of a nursing home applicable to the ergonomics program as follows:

- Management at my facility has developed plans for addressing ergonomics issues among employees.
- Management at my facility has communicated its plans for addressing ergonomics to staff.
- Management at my facility has designated at least one staff member to be responsible for carrying out its plans for addressing ergonomics.
- Management at my facility has ensured that the person(s) who is responsible for carrying out plans for addressing ergonomics is held accountable for doing so.
- Management at my facility has provided the necessary resources to achieve its plans for addressing ergonomics.

For Version 3, these five sub-items were consolidated into a single item to which explanatory information was added. In keeping with the example for the management element, Version 3 included this item: "Management at my facility supports our ergonomics program. (*Supports* here is characterized as: communicates with employees about the program, designates staff to be responsible for the program, holds staff

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accountable for the program, provides necessary resources for the program.).” The seven revised items were operationalized from OSHA’s publications *Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders* (2008), *Ergonomics Programs* regulation (2000), and NIOSH’s *Elements of Ergonomics Programs: A Primer Based on Workplace Evaluations of Musculoskeletal Disorders* (Cohen et al., 1997) and *NIOSH Testimony to OSHA: Comments on the proposed ergonomics program* (NIOSH, 2000).

The explanatory information newly-included in Version 3’s items was comprised of a concentrate from the pilot study and Version 2 questionnaires of the five items associated with each of the seven program elements. Thus, the explanatory information allowed for the retention of some of the characteristics of the first two questionnaires while reducing the number of affected items from 37 to 7. Beyond consolidating questions related to ergonomics program elements, questions 1-4 were unchanged from Version 2.

Using Version 3 of the questionnaire, the same group of 270 nursing homes was sent an email that requested their participation in the study, and included the same consent details and mechanism as used in the Version 2 recruitment email. Likewise, the Version 3 email also requested that the recipient complete the questionnaire fully and to provide the researcher a better email contact for the facility, if appropriate. It should be noted that none of the data gathered from Version 2 of the questionnaire was comingled with data collected from Version 3.

The data collected from the Version 3 recruitment email indicated that of the 270 emails sent, 58 were opened, 201 were unopened, and eight were returned as



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undeliverable. Only three questionnaires were completed fully and one was partially completed.

In order to gather sufficient data for the study, the research randomly selected nursing homes from the group of non-responders and attempted to contact them by telephone. In some instances, during this data collection process, several individuals were involved before the most-appropriate individual at the nursing home could be located and contacted. In some instances, voicemail and messages were left for contact persons to return the researcher's call.

During these conversations, the details of the subject's consent to participate in the study were delineated to ensure the subject was duly informed. If the subject elected to participate in the study, the researcher then read the questionnaire to the subject, and entered his/her responses directly into the SurveyMonkey database during the course of the interview.

In this manner, the researcher collected 45 completed questionnaires. In 13 cases, subjects asked that the researcher email them the link to the questionnaire so they might complete it at a later time. Of these, six questionnaires were completed. Version 3 of the questionnaire is found in Appendix D.

### **Collection of Data**

**Collection of MSD Case Data.** Nursing homes were asked to provide for their facilities the number of MSD cases experienced by direct care workers and attributed to resident handling tasks. These data were collected through item 1 of the questionnaire. Each respondent was asked to use his/her nursing home's *OSHA 300 Form* as the source for this information. The questionnaire also noted that the MSD cases to be reported in

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this study would be listed under column (M)(1), *Injury* or (M)(6), *All other illnesses* of each nursing home's *OSHA 300 Form*. To help ensure the data reported by respondents was accurate, subjects were informed that a review of their facilities' *OSHA 301* records could be helpful and examples of completed *OSHA 300* and *OSHA 301* documents were included in the questionnaire.

The count of MSD cases in each nursing home was included in this study because it could give a sound indication of how many direct care employees had experienced injuries due to resident moving and handling tasks during the most recent year. Incidents captured, such as MSD cases, are referred to as *lagging indicators*. Lagging indicators are commonly used to evaluate the performance of safety and health management efforts including, but not limited to, ergonomics programs (Campbell Institute, 2013). MSD case data were collected by SurveyMonkey software and entered into SPSS software for analysis. Findings are discussed in Chapter 4.

**Collection of Workforce Data.** The study's questionnaire also requested that each nursing home provide labor force data concerning its direct care workers. Each respondent was asked to provide the number of full-time direct care staff it employed, as well as the number of hours that these staff worked during the year. These were collected from questions 2 and 3 of the questionnaire, respectively.

The number of direct care employees was not needed to respond to the research questions, as the number of hours was the key aspect of this data. However, this data allowed for a rough data check for the numbers of hours worked variable, as full-time employees typically work approximately 2,000 hours per year.

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The number of hours worked, in conjunction with the number of MSD cases previously discussed, allowed for the calculation of the MSD rate for the nursing home facility. The Bureau of Labor Statistics (2013) provided a formula to calculate an overall case rate as follows:  $(\text{number of injury and illness cases} \times 200,000) / \text{employee hours worked} = \text{incident case rate}$ . Two hundred thousand hours is based on the equivalent of 100 employees working 40 hours per week for 50 weeks per year. For the purposes of this study, the cases of interest were MSD cases, so the formula was revised to consider the number of MSDs captured by the survey as follows:  $(\text{number of MSD cases} \times 200,000) / \text{employee hours worked} = \text{MSD rate}$ . Workforce and MSD case data were collected using SurveyMonkey software, MSD rates were calculated using MS Excel. All these data were entered into SPSS software for analysis and are detailed further in Chapter 4.

**Collection of Ergonomics Programs Data.** Each nursing home was asked to provide data regarding the ergonomics program in place at their facility in items 4-11 of the questionnaire. Item 4 sought to determine if the nursing home had in place an ergonomics program for their direct care staff. Subjects were asked to choose from, *Yes*, *No*, or *I don't know* as responses. Items 5-11 of the questionnaire each addressed a separate ergonomics program element. These elements were as follows:

- Management at my facility supports our ergonomics program.
- Employees at my facility are involved in our ergonomics program.
- My employer acts to identify ergonomics problems.
- My facility has implemented controls to prevent ergonomics injuries.
- My employer provides ergonomics training.

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- My facility has procedures to address ergonomics-related injuries and illnesses that occur.
- My employer evaluates ergonomics program effectiveness.

For each program element, respondents were asked to choose a response that best described how well their nursing home followed the NIOSH/OSHA model by selecting from a five-item scale, ranging from “strongly agree,” “agree,” “neutral,” “disagree,” to “strongly disagree.” Items 5-11 were designed such that responses of “strongly agree” were most-closely aligned with an element of the NIOSH/OSHA model. Data collected for these items was collected by SurveyMonkey software and entered into SPSS software for analysis. Details are provided in Chapter 4.

### **Data Analysis**

The data collected by the questionnaire was analyzed using SPSS software. The first analysis performed was of the frequencies of the responses collected for the first research question; “How many nursing homes have ergonomics programs in place?” For the second research question, “How closely do nursing home ergonomic programs follow the NIOSH/OSHA model?” the frequencies of responses (strongly agree, agree, neutral, disagree, strongly disagree) corresponding to each of the seven elements of ergonomics programs were determined. Also for the second research question, descriptive statistics were utilized to provide means for each element, a grand mean, and standard deviations. To provide an aggregate measure of the closeness of nursing homes’ ergonomics programs to the NIOSH/OSHA model, a grand mean was calculated using the mean scores from each of the program elements.

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For the third research question, which sought to describe the relationships between the elements of the ergonomics programs and MSD rates, several analyses were performed. Descriptive statistics were used for the number of MSD cases, number of direct care employees, number of hours worked, and MSD rate. In answering the third research question, multiple linear regression analyses were conducted to regress the MSD rate upon each of the seven ergonomics program elements. The coefficients of predictor for the seven program elements were also determined. The dependent variable was MSD rate, while the independent variables were as follows:

- Management at my facility supports our ergonomics program.
- Employees at my facility are involved in our ergonomics program.
- My employer acts to identify ergonomics problems.
- My facility has implemented controls to prevent ergonomics injuries.
- My employer provides ergonomics training.
- My facility has procedures to address ergonomics-related injuries and illnesses that occur.
- My employer evaluates ergonomics program effectiveness.

The final statistical tests conducted were several Pearson product-moment correlation tests. These allowed for the characterization of the strength of association between the MSD rate and each of the seven ergonomics program elements. Each of these are further discussed in Chapter 4.

### **Limitations**

There are several potential limitations within this study design, as listed below, which could have affected the findings and conclusions:

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1. Generalizability—Because the sample was limited to nursing homes within Kentucky, the findings of this study may not be generalized beyond the sample to other nursing homes.
2. Data accuracy—Data representing the number of MSD cases, as recorded on each nursing home's *OSHA 300 Forms*, may have been inaccurately recorded by nursing home administrators. The accuracy of *OSHA 300* records has been called into question relative to both under-reporting and over-reporting. OSHA found that approximately 20% of companies inspected for recordkeeping accuracy had made significant coding mistakes (OSHA, 2001). Conversely, Wuellner, and Bonauto (2014) noted, "While we found evidence of under-reporting, there were also examples of over-reporting, that is, reporting illnesses and injuries that did not meet the OSHA case criteria" (p. 9), but which were recorded on the *OSHA 300 Forms*, nonetheless.
3. Construct validity—The selection of the elements of ergonomics programs may not have completely operationalized the construct of an ergonomics program. Although this study used the same elements suggested by publications such as OSHA's *Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders* (2008), and was generally supported by the literature as appropriate, the potential existed that a nursing homes ergonomics program could have carried one or more other program elements not considered by this study.
4. Self-selection bias—The collected survey data may have been biased by the tendency of a certain group of respondents who chose to respond, rather than considering truly randomized responses. For example, certain respondents may have elected to participate

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because they were aware of their nursing home's low number of MSD cases, and considered the survey a means of celebrating such a low case rate.

5. Response bias—These could have resulted from design flaws in the survey instructions, survey questions, or both. Such bias is characterized by misleading instructions, leading questions, double-barreled questions, and others.

6. Non-sampling errors—There may have been inaccuracies in the survey data. Respondents may have made unintentional errors in their responses, such as simple coding errors or they may have responded incorrectly due to their own misunderstandings of the subject matter. In some cases, the data gathered allowed for the researcher to check for these types of errors. For example, respondents who answered that they did not have an ergonomics program (responding “No,” for Question 4, which asked, “Does your facility have an ergonomics program for nurses, nurse aides, and orderlies?”), should not have then gone on to answer subsequent questions about their facility's ergonomics program. The researcher screened and corrected for this type of error when possible.

CHAPTER 4: RESULTS

**Introduction**

As discussed in previous chapters, there is little substantive information available regarding ergonomics programs in nursing homes in Kentucky. Chapter 3 described the research methodology followed by the study. Chapter 4 begins with a restatement of the purpose of the study, and the three research questions that guided the study. Next, the research methods used by the study are reviewed. Finally, the findings of the study are presented, including descriptive statistics, frequencies, correlation, and regression outcomes.

The overarching purpose of this study was to gather information about ergonomics programs utilized by Kentucky's nursing homes. More precisely, the study sought to answer these three research questions:

1. How many nursing homes in Kentucky have ergonomics programs for controlling work-related musculoskeletal disorders among their direct care employees?
2. How closely do the ergonomics programs in place in Kentucky's nursing homes follow the NIOSH/OSHA model?
3. What are the relationships between the ergonomics programs in place in Kentucky's nursing homes and MSD rates that occur among their direct care workers resultant from resident care tasks?

**Summary of Methods**

This study followed a cross-sectional, non-experimental, and quantitative design. Drawing from a listing of nursing home facilities in the Commonwealth, recruitment emails were sent to 270 facilities requesting that the nursing home provide data for the



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study through a questionnaire instrument. Due to a low response rate, the researcher randomly selected nursing homes to contact and then gathered data directly via telephone interview. Ultimately, the researcher gathered complete data sets from 45 nursing homes. All data gathered were entered into SurveyMonkey software, and then exported to SPSS for analysis.

The second category of data was associated with MSD cases, and involved the collection from each nursing home of the number of MSD cases that were known to have occurred among their direct care staff members and attributed to resident moving and handling work tasks. Additionally, to allow for the calculation of a MSD case rate, the total number of hours that these direct care staff worked was also collected. These procedures allowed for a response to the third research question.

### Analysis of Data

**Nursing Homes with Ergonomics Programs.** Focusing on the first research question, nursing homes were asked to report whether or not their facility had an ergonomics program in place for direct care workers. Respondents were asked in Question 4 of the questionnaire to select *Yes*, *No*, or *I don't know*. Table 4.1 provides the frequencies for the three responses.

Table 4.1

Frequency: Nursing Homes with an Ergonomic Program

Question	N	Yes	No	I don't know
Does your facility have an ergonomics program for nurses, nurse aides, and orderlies?	48	46	2	0

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Approximately 95% of nursing homes responded *Yes*, to this question. It should be noted that in two cases, respondents indicated *No* for Question 4, yet went on to respond to Questions 5 through 11, which focused on the individual elements of their nursing homes’ ergonomics programs. In these cases, these responses were revised to *Yes*, because the subjects indicated that an ergonomics program did exist, by virtue of his/her responses to Questions 5 through 11.

**MSD Cases, Number of Employees, and Hours Worked.** Nursing homes were asked to provide data for three variables: 1) number of MSD cases that occurred among direct care workers as the result of moving and handling residents; 2) number of direct care workers employed at the facility; and 3) total numbers of hours that direct care workers worked. Table 4.2 shows the minimums, maximums, means, and standard deviations for each of the variables, which corresponded to items 1, 2, and 3 of the questionnaire used for this study. The questionnaire is found in Appendix D.

Table 4.2

Descriptive Statistics: MSD Cases, Direct Care Employees, and Hours Worked

Question	N	Minimum	Maximum	Mean	Std. Deviation
How many instances of musculoskeletal disorders occurred among direct care employees due to patient moving and handling work, in 2015? These incidents should be recorded under (M)(1) or (M)(6) of the OSHA Form 300?	48	0	12	3.81	3.32

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Table 4.2 (continued)

Question	N	Minimum	Maximum	Mean	Std. Deviation
How many full-time, direct care employees worked in your establishment, in 2015?	48	19	275	86.71	47.6
How many hours did full-time direct care employees work at your facility, in 2015? (Include over-time, seasonal, temporary, and part-time work.)	48	38,520	50,8200	167,093	91,945.72

**MSD Rate.** An MSD rate variable was calculated using the variables: 1) number of MSD cases which occurred among direct care workers as the result of moving and handling residents; and 2) numbers of hours that direct care workers worked. The formula used was:  $MSD\ rate = \frac{\text{number MSD cases} \times 200,000}{\text{employee hours worked}}$ . Two hundred thousand hours is based on the equivalent of 100 employees working 40 hours per week, 50 weeks per year (Bureau of Labor Statistics, 2013). The MSD rate provides the number of MSD incidents occurring per 100 employees. Table 4.3 provides descriptive statistics for the MSD rate variable.

Table 4.3

Descriptive Statistics: MSD Rate

Variable	N	Minimum	Maximum	Mean	Std. Deviation
MSD rate	42	0	18.03	4.86	4.45

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**Ergonomics Program Elements**

Table 4.4 details the frequencies of responses gathered from the questionnaire relative to the seven elements of ergonomics programs consistent with the NIOSH/OSHA model. Available responses to nursing homes were scaled, ranging from Strongly Agree, Agree, Neutral, Disagree, to Strongly Disagree.

Table 4.4  
Frequencies: Elements of NIOSH/OSHA Model

Item	N	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Management at my facility supports our ergonomics program. ("Supports" here is characterized as: communicates with employees about the program, designates staff to be responsible for the program, holds staff accountable for the program, provides necessary resources for the program.)	48	26	18	2	2	0

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Table 4.4 (continued)

Item	N	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<p>Employees at my facility are involved in our ergonomics program. ("Involved" here is characterized as: employees help to identify ergonomics hazards, suggest ways to prevent ergonomics hazards, participate in a committee/group responsible for addressing ergonomics, can report ergonomics hazards, can give input regarding ergonomics.)</p>	48	24	20	3	1	0
<p>My employer acts to identify ergonomics problems. ("Acts" here is characterized as: interview staff, conduct employee surveys, observe workplace conditions, review injury and illness records, investigate accidents &amp; incidents.)</p>	48	27	20	1	0	0

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Table 4.4 (continued)

Item	N	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My facility has implemented controls to prevent ergonomics injuries. ("Controls" here is characterized as: protocols for resident moving & lifting, no-lift policy, patient moving & lifting equipment, moving & lifting equipment is maintained, moving & lifting equipment is readily available to use.)	48	43	5	0	0	0
My employer provides ergonomics training. ("Training" here is characterized as: specifically for ergonomics, provided before doing patient moving & lifting, includes staff and supervisors, includes recognizing ergonomics-related injuries, includes regular refresher training.)	48	34	10	2	2	0

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Table 4.5 provides descriptive statistics of the weighting for the same responses, by assigning values of Strongly Agree = 1, Agree = 2, Neutral = 3, Disagree = 4, and Strongly Disagree =5. Means and standard deviations were calculated for each item and are reported in the table. For each variable, the possible means ranged from 1.00 to 5.00. A mean score of 1.00 represented a program element that closely aligned with a corresponding NIOSH/OSHA model element, while a mean score of 5.00 was considered to indicate a program element that did not closely align.

Table 4.5

Descriptive Statistics: Elements of NIOSH/OSHA Model

Item	N	Mean	Std. Deviation
My facility has implemented controls to prevent ergonomics injuries. ("Controls" here is characterized as: protocols for resident moving & lifting, no-lift policy, patient moving & lifting equipment, moving & lifting equipment is maintained, moving & lifting equipment is readily available to use.)	48	1.10	.309

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Table 4.5 (continued)

Item	N	Mean	Std. Deviation
My facility has procedures to address ergonomic-related injuries & illnesses that occur. ("Procedures here is characterized as: procedures for employees to report ergonomic-related injuries & illnesses, procedures for the early diagnosis and treatment of ergonomic-related injuries & illnesses, light-duty program to allow employees to heal before returning to full duty, provision of information regarding employees' work duties to healthcare providers, procedures that allow employees to report injuries & illnesses without fear of discipline or firing.)	48	1.33	.476
My employer provides ergonomics training. ("Training" here is characterized as: specifically for ergonomics, provided before doing patient moving & lifting, includes staff and supervisors, includes recognizing ergonomics-related injuries, includes regular refresher training.)	48	1.42	.767
My employer acts to identify ergonomics problems. ("Acts" here is characterized as: interview staff, conduct employee surveys, observe workplace conditions, review injury and illness records, investigate accidents & incidents.	48	1.46	.544
Management at my facility supports our ergonomics program. ("Supports" here is characterized as: communicates with employees about the program, designates staff to be responsible for the program, holds staff accountable for the program, provides necessary resources for the program.)	48	1.58	.767



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Table 4.5 (continued)

Item	N	Mean	Std. Deviation
Employees at my facility are involved in our ergonomics program. ("Involved" here is characterized as: employees help to identify ergonomics hazards, suggest ways to prevent ergonomics hazards, participate in a committee/group responsible for addressing ergonomics, can report ergonomics hazards, can give input regarding ergonomics.)	48	1.60	.707
My employer evaluates ergonomics program effectiveness. ("Evaluates" here is characterized as: evaluations conducted on a regular basis, consideration of changes in incidence rates of ergonomic-related injuries & illnesses, consideration of changes in severity of ergonomic-related injuries & illnesses, consideration of changes in rate of job turnover, evaluation of patient moving & lifting equipment.)	48	1.81	1.07

Note that in Table 4.5, each item was ranked in the table in descending order of “closeness of alignment.” That is, means (M) were ranked from mostly closely aligned to least closely aligned. The most closely aligned variable to the NIOSH/OSHA model was found to be item 8, (M = 1.10), “My facility has implemented controls to prevent ergonomics injuries,” while the least closely aligned (M = 1.81) was for the item, “My employer evaluates ergonomics program effectiveness.”

Finally, in Table 4.6, a grand mean and standard deviation for all 7 variables were calculated (M = 1.47, Std. Dev. = 0.22) to give an overall indication of the closeness of

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ergonomics programs elements as an aggregate to the NIOSH/OSHA model. Again, a mean score of 1.00 was considered to represent close alignment with the overall NIOSH/OSHA model, while a mean at 5.00 indicated an ergonomics program that did not closely align with the model.

Table 4.6

Descriptive Statistics: Grand Mean of Elements of NIOSH/OSHA Model

Item	N	Grand Mean	Std. Deviation
Employees at my facility are involved in our ergonomics program, My employer evaluates ergonomics program effectiveness, Management at my facility supports our ergonomics program, My employer acts to identify ergonomics problems, My employer provides ergonomics training, My facility has procedures to address ergonomic-related injuries & illnesses that occur, My facility has implemented controls to prevent ergonomics injuries.	7	1.47	0.22

The third research question sought to characterize which relationships, if any, existed between the ergonomics programs in place in nursing homes, and the MSD rate among their direct care workers due to resident moving and handling tasks. In order to determine which ergonomics programs elements, if any, were associated with the MSD rates among their direct care workers due to resident moving and handling tasks, standard multiple linear regression analyses were calculated with MSD rate as the dependent variable. The seven predictor (independent) variables in the regression were:

- Management at my facility supports our ergonomics program.

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- Employees at my facility are involved in our ergonomics program.
- My employer acts to identify ergonomics problems.
- My facility has implemented controls to prevent ergonomics injuries.
- My employer provides ergonomics training.
- My facility has procedures to address ergonomic-related injuries & illnesses that occur.
- My employer evaluates ergonomics program effectiveness.

Overall, the model was significant ( $F=2.476, p<0.05$ ). In other words, the seven predictors explained MSD rate, better than chance alone. Collectively, the predictors explained 18% of the variance in MSD rate. These findings are presented in Table 4.7.

Table 4.7

Multiple Linear Regression Results: MSD Rate

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.550	.302	.180	4.09134	
ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	290.065	7	41.438	2.476	.033
Residual	669.564	40	16.739		
Total	959.629	47			

Note: a) Dependent Variable: MSD rate. b) Predictors: (Constant); “Management at my facility supports our ergonomics program;” “Employees at my facility are involved in our ergonomics program;” “My employer acts to identify ergonomics problems;” “My facility has implemented controls to prevent ergonomics injuries;” “My employer provides ergonomics training;” “My facility has procedures to address ergonomic-related injuries & illnesses that occur;” and “My employer evaluates ergonomics program effectiveness.”

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Further, considering the relationships between the dependent variable, MSD rate, and the seven independent variables, the coefficients of predictors from the regression indicated that two of the independent variables had significant relationships to the dependent variable. The first was “Employees at my facility are involved in our ergonomics program” (beta = 0.428, t = 2.931, p<0.05). The second was “My facility has procedures to address ergonomic-related injuries & illnesses that occur” (beta = -0.462, t = -2.636, p<0.05). These coefficients are presented in Table 4.8.

Table 4.8

Coefficients of Predictors Results: MSD Rate

Model	Standardized Coefficients		
	t	Sig.	Beta
1 (Constant)	2.097	.042	
Management at My Facility Supports Our Ergonomics Program	-.176	.861	-.036
Employees at My Facility Are Involved in Our Ergonomics Program	2.931	.006	.428
My Employer Acts to Identify Ergonomics Problems	.834	.409	.138
My Facility Has Implemented Controls to Prevent Ergonomics Injuries	-.485	.631	-.077
My Employer Provides Ergonomics Training	.250	.804	.044
My Facility Has Procedures to Address Ergonomic-Related Injuries & Illnesses That Occur	-2.636	.012	-.462
My Employer Evaluates Ergonomics Program Effectiveness	-.258	.798	-.038

AdjR2=.180

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Finally, a Pearson product-moment correlation coefficient was computed to further examine relationships between MSD rate and the elements of ergonomics programs. Generally, most relationships among the variables were found not to be statistically significant. However, two variables were found to have significant relationships relative to the MSD rate variable. These were, “Employees at my facility are involved in our ergonomics program,” and “My facility has procedures to address ergonomic-related injuries & illnesses that occur.” There was a positive correlation for, “Employees at my facility are involved in our ergonomics program,” ( $r = 0.342$ ,  $N = 48$ ,  $p < 0.05$ ), and a negative correlation for, “My facility has procedures to address ergonomic-related injuries & illnesses that occur.” ( $r = -0.302$ ,  $N = 48$ ,  $p < 0.05$ ). Both of these Pearson’s  $r$  statistics,  $r = 0.342$ , and  $r = -0.302$ , are considered to have low positive and low negative levels of correlation, respectively (Hinkle, Wiersma, & Jurs, 2003). Table 4.9 shows these correlation results.

Table 4.9

Pearson Correlation Results: MSD Rate and Program Elements

	MSD rate		
	N	Sig. (2-tailed)	Pearson Correlation
MSD rate	48		1
Management at my facility supports our ergonomics program.	48	.284	-.158
Employees at my facility are involved in our ergonomics program.	48	.018	.342
My employer acts to identify ergonomics problems.	48	.739	.049

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Table 4.9 (continued)

	N	MSD rate	
		Sig. (2-tailed)	Pearson Correlation
My facility has implemented controls to prevent ergonomics injuries.	48	.829	.032
My employer provides ergonomics training.	48	.858	.027
My facility has procedures to address ergonomic-related injuries & illnesses that occur.	48	.037	-.302
My facility has procedures to address ergonomic-related injuries & illnesses that occur.	48	.350	-.138

CHAPTER 5: DISCUSSION

*The greatest asset of America today is not its fertile fields, its rich ores, its completely equipped factories or its millions in currency. The greatest asset in America is the American people. The greatest possible field for economy is not in saving materials but in promoting the safety of our people. The future of the safety movement is not so much dependent upon the invention of safety devices as on the improvement of methods of educating people to the ideal of caution and safety.* ~Walter Dill Scott, letter to the National Safety Council, 1921

**Introduction**

This final chapter provides a review of the study, then considers how the findings of the study might be interpreted relative to each of the three research questions. A discussion is then provided regarding what implications the findings might have in terms of both practice and policy. Finally, several recommendations for future research opportunities are conveyed, and several concluding remarks are offered to bring a close to the chapter.

**Review of Study**

A review of literature indicated that direct care workers have been found to suffer rates of musculoskeletal disorders (MSD) greater than many other occupations (Bureau of Labor Statistics, 2015a). The NIOSH/OSHA model ergonomics program, which consists of seven key elements, has been recommended for controlling such injuries (McGlothlin & Streetman, 2009; Cohen et al., 1997; OSHA, 2008). However, little information is available concerning the general state of ergonomics programs in

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Kentucky's nursing homes. Accordingly, this study was designed to gather basic information on these issues.

The researcher gathered data to determine how many nursing homes operating in Kentucky had an ergonomics program in place for their direct care workers, and to assess how closely the ergonomics programs in place followed the elements of the NIOSH/OSHA model. The researcher gathered additional data regarding the MSDs suffered by direct care workers due to resident moving and handling tasks, to allow for the calculation of an MSD rate. The MSD rate, along with information collected concerning nursing homes' ergonomics programs, was then used to determine if any inferences could be drawn regarding the relationships between these variables.

### **Interpretation of Findings**

**Research Question 1: Widespread Use.** Findings of this study indicated that nearly all (98%) of the nursing homes sampled (N=48) reported that they did indeed have an ergonomics program in place for direct care workers. It is expected that this degree of implementation will be representative of all nursing homes in Kentucky.

That most nursing homes were found to have an ergonomics program in place was not unforeseeable in light of two conditions. First, statements issued by the Kentucky Association of Health Care Facilities (KAHCF), a nursing home trade group, appear to advocate the NIOSH/OSHA model to its members (Hoover, 2002). The KAHCF also provided presentations and educational offerings to its member specifically addressing ergonomics (KAHCF, 2016; KAHCF, n.d.).

The second and perhaps more substantial reason that nearly all of Kentucky's nursing homes would have an ergonomics program stems from the activities of the



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Kentucky Labor Cabinet's Occupational Safety and Health Program (KYOSH). From 2002 to 2015, the agency's enforcement arm, the Division of OSH Compliance, conducted 174 worksite inspections of nursing home facilities in the Commonwealth. Concurrently, its Division of OSH Education and Training, a compliance assistance group, provided 343 consultative surveys for nursing homes in the state (Kentucky Labor Cabinet, 2016). The activities of these two groups were to have been conducted in accordance with OSHA's National Emphasis Program for nursing and residential care facilities (OSHA, 2012b), which carried references to ergonomics programs in general, and the NIOSH publication *Safe Lifting and Movement of Nursing Home Residents*, specifically (2006).

Furthermore, KYOSH's visits to nursing homes would have included an assessment of each nursing home's *OSHA 300 Logs* for several years regarding MSD-related trends, and an evaluation of potential ergonomics-related hazards and the facility's ergonomics program if appropriate (OSHA, 2012b). KYOSH's activities probably would have brought to the attention of nursing home administrators the importance of having ergonomics programs in place.

**Research Question 2: Model Closely Followed.** The second research question sought to determine how closely nursing homes' ergonomics programs followed the NIOSH/OSHA model. Closeness to the model was determined separately for each of the seven program elements using questionnaire items corresponding to each element. Responses were collected ranging from 1.0 to 5.0, with a lower score understood to represent elements that were most closely aligned to the model. Responses were averaged to arrive at mean scores for each of the seven program elements.

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Means for each program element ranged from a high of  $M=1.10$  to  $M=1.81$ . Also, a grand mean for all program elements ( $M=1.47$ , Std. Dev. = 0.22) was calculated. These findings for the separate program elements, and also the aggregate of all elements, suggest that the ergonomics program elements from the population of interest followed the NIOSH/OSHA model's program elements to a close degree.

It was foreseeable that nursing homes' ergonomics programs could mirror the NIOSH/OSHA model, under the same rationale described in the discussion of research question 1, above. That is, the same factors that were likely to have contributed to the widespread implementation of ergonomics programs among nursing homes in Kentucky (e.g., acceptance within the industry and frequent interactions with KYOSH) were likely to have contributed to the conformity of these programs to the NIOSH/OSHA model.

Another factor that was likely to have strongly influenced the adherence of Kentucky's nursing homes to the NIOSH/OSHA model was the ample degree of recognition within the nursing home industry of the program elements prescribed by the model (Boehm, 2012; Hoover, 2002; Weber, 2006). It should be expected that this recognition would disseminate from the larger industry group down to each of its members via communiques, such as periodicals and email newsletters (Berkowitz, 2011).

The program element found to be most closely aligned ( $M = 1.10$ ) to the NIOSH/OSHA model was addressed by the questionnaire in item 8: "My facility has implemented controls to prevent ergonomics injuries. ("Controls" here is characterized as: protocols for resident moving & lifting, no-lift policy, resident moving & lifting equipment, moving & lifting equipment is maintained, moving & lifting equipment is readily available to use)."

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That the program element dealing with controls to prevent ergonomics injuries might be found to closely follow the NIOSH/OSHA model is readily envisioned, because substantial recognition exists regarding various control measures designed to prevent ergonomics injuries. For example, protocols for resident moving and lifting have been developed and recommended for use by authorities such as the U.S. Veteran's Administration (2006). Equally, numerous studies have demonstrated that substantial reductions in injuries and associated costs have been realized through the use of mechanical resident moving and lifting devices (Evanoff, Wolf, Aton, Canos, & Collins, 2003; Miller, Engst, Tate, & Yassi, 2006). Additionally, NIOSH has produced detailed guidance on the use of controls such as resident lifts in its publication, *Safe Lifting and Movement of Nursing Home Residents* (2006), and *Safe Patient Handling Training for Schools of Nursing* (2002).

The ergonomics program element found to be least closely aligned ( $M = 1.81$ ) to the NIOSH/OSHA model was item 11 from the questionnaire. This item considered the ongoing review of the ergonomics program, and appeared as, "My employer evaluates ergonomics program effectiveness. ("Evaluates" here is characterized as: evaluations conducted on a regular basis, consideration of changes in incidence rates of ergonomic-related injuries & illnesses, consideration of changes in severity of ergonomic-related injuries & illnesses, consideration of changes in rate of job turnover, evaluation of resident moving & lifting equipment.)."

A fair question asks why the ergonomics program element that deals with program evaluation should be the element that least closely follows the NIOSH/OSHA model. This may be addressed most reliably through future research endeavors, but a

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solution may also be gleaned from a review of various sources in the literature. A perfunctory review indicated that some considerations of ergonomics programs did not carry mention of a program review elements (Fletcher, 2000; Nelson et al., 2006; Soares, Jacobs, Monroe, Fick, & Joshi, 2012). In summary, it may be that researchers have placed program review in a category of lesser importance, and nursing homes have followed this practice.

**Research Question 3: Relationships** The third research question sought to assess the relationships between the ergonomics programs in place in nursing homes and the MSD rates found for their direct care workers resultant from resident moving and handling tasks. In seeking to respond to the research question, multiple linear regression analyses were conducted. Data from these procedures are exhibited in Tables 4.7 and 4.8. Also, several Pearson product-moment correlation coefficients were determined for the variables of interest, and their outputs are found in Table 4.9.

**Programs Predict MSD Rate.** A noteworthy outcome of the multiple linear regression analysis indicated that on the whole, the independent variables, which were the seven elements of ergonomics programs, were a statistically significant predictor ( $F=2.476$ ,  $p<0.05$ ) of the dependent variable, MSD rate. The predictor variables were as follows:

- Management at my facility supports our ergonomics program.
- Employees at my facility are involved in our ergonomics program.
- My employer acts to identify ergonomics problems.
- My facility has implemented controls to prevent ergonomics injuries.
- My employer provides ergonomics training.

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- My facility has procedures to address ergonomic-related injuries & illnesses that occur.
- My employer evaluates ergonomics program effectiveness.

**Significant Program Element: Employee Involvement.** In considering the role of each of the program elements separately, the regression found that only two of the seven variables had significant relationships to MSD rate. The first significant variable was, "Employees at my facility are involved in our ergonomics program," (beta = 0.428,  $t = 2.931$ ,  $p < 0.05$ ). The determination of a positive beta statistic indicated a negative relationship between this variable and MSD rate in this case. This is because the scale used to collect data from the questionnaire was numbered such that Strongly Agree = 1, Agree = 2, Neutral = 3, Disagree = 4, and Strongly Disagree = 5.

**Significant Program Element: MSD Management.** The second independent variable identified by the regression analysis which exhibited a significant relationship to MSD rate was the ergonomics program element concerned with proper management of MSD cases. This variable was identified as, "My facility has procedures to address ergonomic-related injuries & illnesses that occur," (beta = -0.462,  $t = -2.636$ ,  $p < 0.05$ ). This indicates that a positive correlation between the variables of MSD management and MSD rate. That is, as the level of MSD management increases, that the MSD rate variable will increase responsively. This increase is because, as noted above, data was collected such that scale questionnaire items were formulated as 1 = Strongly Agree, and ranged up to 5 = Strongly Disagree. This positive relationship is somewhat perplexing. This is because MSD management has been noted to be an important program element

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for controlling MSDs, so a reduction in MSD rate would be anticipated (Gjessing, Schoenborn, & Cohen, 1994; NIOSH 2000).

The MSD management variable was fully described by item 10 of the study's questionnaire as follows: "My facility has procedures to address ergonomic-related injuries & illnesses that occur. ("Procedures" here is characterized as: procedures for employees to report ergonomic-related injuries & illnesses, procedures for the early diagnosis and treatment of ergonomic-related injuries & illnesses, light-duty program to allow employees to heal before returning to full duty, provision of information regarding employees' work duties to healthcare providers, procedures that allow employees to report injuries & illnesses without fear of discipline or firing.)" The reporting-related component of the MSD management variable that stated: "procedures that allow employees to report injuries & illnesses without fear of discipline or firing," was likely to have been included with the intention of fostering the reporting of injuries and illnesses as soon as possible (NIOSH, 2000; Gjessing et al., 1994).

Interestingly, the reporting-related provision may have also led to unintended results, that could explain the positive correlation between the MSD management and MSD rate found by the study. A viable explanation could hold that higher levels of employee involvement in the ergonomics program produced conditions in which employees were more cognizant of MSDs, were more capable of recognizing early symptoms, and were more comfortable with reporting their occurrence. These conditions would then produce more reports of MSD cases, which would then result in higher numbers of MSD cases that are counted, but not necessarily more occurrences. This explanation is supported by findings described by Liu et al. (2010), who noted that, "joint

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labor-management committees might make it more likely that worker injuries would be reported” (p. 788). Likewise, Brown et al. (2005) reported that employee representation on health and safety committees affected a positive influence on nurses reporting work-related injuries.

**Relationships Exist.** The outcomes of two of the Pearson product-moment correlation coefficient tests indicated low but statistically significant levels of correlation for two of the study's variables, the first described as, “Employees at my facility are involved in our ergonomics program,” and second as, “My facility has procedures to address ergonomic-related injuries & illnesses that occur.” The first of consequence was a positive correlation ( $r = 0.342$ ,  $N = 48$ ,  $p < 0.05$ ) observed between MSD rate and “Employees at my facility are involved in our ergonomics program.” The second was a negative correlation ( $r = -0.302$ ,  $N = 48$ ,  $p < 0.05$ ) found between MSD rate and “My facility has procedures to address ergonomic-related injuries & illnesses that occur.” These findings are consistent with the relationships determined by the multiple linear regression analysis discussed above, and serve to give additional strength to those findings.

### **Implications for Policy and Practices**

**Successful Efforts.** The majority of nursing homes in Kentucky appear to have put ergonomics programs in place for their direct care staff members. This should give some degree of satisfaction to groups such as OSHA, NIOSH, and others whose efforts to control ergonomics-related injuries and illnesses appear to have been successful to some degree. The findings associated with the second research question, which indicated that Kentucky's nursing homes' ergonomics programs have closely followed the

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NIOSH/OSHA model, similarly indicate that NIOSH, OSHA, and others have successfully persuaded nursing homes to implement ergonomics programs which, at a minimum, follow the seven element NIOSH/OSHA model. This further validates the efforts of these groups and demonstrates that they appear to have been successful in this regard.

**Employee Involvement.** The researcher observed a negative relationship between the variable expressed as, “Employees at my facility are involved in our ergonomics program” and the MSD rate variable. This finding appears to indicate that employee involvement could lead to a reduction in MSD rate. This finding is consistent with research that supports employee involvement in ergonomics programs and could serve to highlight the importance of employee involvement as a key element of the ergonomics programs administered by nursing homes (NIOSH, 2003; Hignett, Wilson, & Morris, 2005).

**MSD Management.** As noted previously, the researcher observed a positive relationship between the MSD rate and MSD management variables. This should not be taken as a causal relationship, as it may only be an increase in reporting that has resulted. The Centers for Disease Control and Prevention (2017) noted that similar occurrences are recognized relative to disease outbreaks, where reports were considered to have increased, not due to the occurrence of disease cases, but were instead attributed to factors such as new staff and increased interest. Thus, it is important that nursing homes be cognizant of this potentially misleading situation.

The great significance that employee involvement plays on the reporting of workplace injuries and illnesses is evidenced in provisions required by OSHA in its rule,



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29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses. Under 1904.35 related to employee involvement, OSHA included various provisions dealing with the sharing of information and procedures for the reporting of injuries and illnesses that illustrate the agency's belief that employee involvement is essential to the recordkeeping process. The agency further explained in the Preamble discussion for 29 CFR 1904 that, "OSHA believes that employee involvement is essential to the success of all aspects of an employer's safety and health program. This is especially true in the area of recordkeeping, because free and frank reporting by employees is the cornerstone of the system" (OSHA, 2001, p. 6050). Accordingly, nursing homes should be made aware of the potential fallacy of attributing increases in MSD rates to MSD management and cautioned against curtailing MSD management practices until further study of these issues provides for better understanding.

**MSD Rate.** While not specifically applicable to this study's research questions, descriptive statistics for MSD rate were determined. These data showed a mean MSD rate of 4.3, with a wide range from 0.0 to 18.03. The mean of 4.3 indicates a relatively high rate of MSD's among direct care workers compared to the Bureau of Labor Statistics (2011) reporting an average MSD rate of 2.49 for all private and public employers. This elevated level indicates the need for additional study. Further research could consider factors specific to Kentucky, such as training requirements for direct care worker specific to the state, which could account for the elevated MSD rate.

### **Implications for Future Research**

The findings of this study have indicated that Kentucky's nursing homes' ergonomics programs were found to be very close to the NIOSH/OSHA model. It was

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also the case, as seen in Table 4.3, that a wide range of MSD rates were found, ranging from 0 to 18.03. This suggests that factors could be at play which were outside the boundaries of the NIOSH/OSHA model and therefore outside the scope of this study.

**Manual Lifting Practices.** One such factor not considered by this study that might help explain why MSD rates varied so widely among the respondents could be the use of poor/unsafe work practices, in the form of body mechanics-based lifting methods. The NIOSH/OSHA model does not expressly prohibit these practices. Evidence suggests that direct care workers continue to utilize these techniques, even though the use of body mechanics is antiquated and lacks evidence to support its use as an injury prevention method (McConnell, 2002; Nelson et al., 2007). Future studies should consider the ongoing use of body mechanics-based lifting techniques concurrent with the use of NIOSH/OSHA model-based ergonomics programs in nursing homes. Findings could help determine the relationships that body mechanics-based lifting techniques and ergonomics programs have to MSD rates.

Some authorities recommend that direct care workers follow the Revised NIOSH Lifting Equation to ensure the risk of injury to workers who conduct resident handling tasks is minimized. When applied to resident lifting tasks, the Lifting Equation provides a maximum weight limit of 35 pounds (Waters, 2007). This challenge is compounded because the load involved is a living person who may behave unpredictably (Dockrell et al., 2011). Future research on nursing homes should also seek to determine the extent to which these facilities follow the Revised NIOSH Lifting Equation when manual lifting and moving of residents is conducted.

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**MSD Management.** This study identified a potentially problematic issue in that increased levels of MSD management appeared to lead to a corresponding increase in MSD rate. A feasible explanation was offered that held that MSD management, in terms of increased employee reporting resultant from lack of fear of retribution for reporting injuries and illnesses, could result in more reports of MSDs, rather than an increase in the occurrence of MSD cases. The explanatory information for item 10 of the study's questionnaire involved employee reporting through the following provision: "procedures that allow employees to report injuries & illnesses without fear of discipline or firing." However, this is a complex issue, as other aspects associate with MSD management but not considered by this study could also be influential. Further research should be conducted to help evaluate this phenomenon.

**Program Review and Revision.** Item 11 from the study's questionnaire addressed the ongoing review of the ergonomics program, and appeared primarily as, "My employer evaluates ergonomics program effectiveness." Findings indicated that of the seven program elements, this element least closely resembled the NIOSH/OSHA model. The process of program review is an integral component in the management approach referred to as *continuous improvement* (Petersen, 1998; Russo, 2015). Continuous improvement is a management approach to quality assurance characterized by a "plan-do-check-act cycle," (American Industrial Hygiene Association, 2005), with program review being found within the *check* portion of the cycle. Following the program review, deficiencies are corrected during the process referred to as *adjustment* (Crittenden, 2009), within the *act* portion of the cycle. Overall, the cycle's processes result in improvement to the program.

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Although the variable corresponding to program review was not found by this study to have a significant relationship with MSD rate, it was noted that this variable was least closely aligned to the NIOSH/OSHA model's element. Future research could seek to better understand the implications stemming from the lowest priority status that program review has apparently been given by nursing homes.

One implication may be to help explain the occurrence of the plateau phenomenon. Occupational safety and health practitioners recognize the existence of plateaus in their efforts at injury and illness prevention (Gullotta & Bloom, 2014). In the process of preventing and reducing injuries, a period of success has been shown to be followed by a plateau phase, during which further progress is not achieved. Plateaus have been encountered relative to ergonomics programs, following initial successes realized from the implementation of task and workstation intervention strategies (Della-Giustina, D., 1996).

It has been noted that this study observed a wide range of MSD rates, from 0 to 18.03. Nursing homes that fall in the midrange of these rates may represent cases where the facility has encountered such a plateau. Various authorities consider program review to be a key part of injury prevention programs (Coffin, 2013; Findley, Smith, Kress, Petty, & Enoch, 2004; Slates, 2008). Research focusing on the program review element might help bring greater understanding of the mechanisms involved, and perhaps identify means by which nursing homes might overcome performance plateaus encountered by their ergonomics programs.

### **Conclusion**

Direct care workers provide some of the most intimate and vital tasks for our elderly, frail, and disabled. Yet, these workers face enormous risks due to the hazards presented by physically strenuous and repetitive resident moving and handling tasks. For decades, risks to these workers have been recognized through the collection and analysis of data by government agencies and researchers (Kilbom & Petersson, 2006; Cohen et al., 1997; Office of Inspector General, 2002). Endeavors to alleviate the problems stemming from ergonomics hazards in the nursing home industry have included government publications, attempts at national and state legislation, and enforcement (Institute of Medicine, 2008; Maurer, 2014; Collins et al., 2006; OSHA, 2008; OSHA, 2012b; U.S. Veterans Administration, 2006). In spite of these efforts, many direct care workers continue to suffer MSDs as a result of their difficult working conditions.

Numerous studies regarding work-related MSDs and intervention methodologies have been conducted to help understand the problem and determine effective solutions (Ammendolia et al., 2005; Nelson et al., 2006). However, little information has been gathered specific to nursing homes in Kentucky and the ergonomics programs that they have in place. It is imperative that practical data concerning these issues is gathered, as Kentucky's aging population will certainly put additional pressure on direct care workers in the Commonwealth (Ruther & Ehresman, 2015). To answer these needs, this study made several elementary determinations regarding the extent of implementation of ergonomics programs in nursing homes, how closely the ergonomics programs follow the NIOSH/OSHA model, and what relationships exist between the ergonomics programs

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and MSD rates among direct care workers resultant from resident moving and handling tasks.

Overall, the findings from this study should provide some cautious optimism, in that some of the basic work toward the application of NIOSH/OSHA model ergonomics programs appears to have been successful. Still, this study also indicated that elevated MSD rates existed among nursing homes ( $M=4.86$ ), compared to the national average injury and illness incident rate of 3.0 for all industries (Bureau of Labor Statistics, 2016a). Accordingly, the need for further research on this problem is evident. Further research could help to characterize the use of body mechanics-based manual resident moving and handling practices in Kentucky's nursing homes and what effects these practices might have on the facilities' ergonomics programs and MSD rates. Equally, future research efforts could provide valuable information on the nature and effects of the MSD management and program evaluation elements of ergonomics programs currently in place in nursing homes. It is imperative that such research be conducted without delay, as the MSDs suffered by direct care workers and the resulting toll will continue to occur.

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## APPENDICES

APPENDIX A

CHFS LIST OF NURSING HOME FACILITIES IN KENTUCKY

FACILITY TYPE	NAME	ADDRESS	FAC_CITY	FAC_ZIP	ADMFIRST	ADMLAST	TELEPHONE	FAXPHONE	FACEMAIL
LNF	MCDOWELL SKILLED NURSING FACILITY	206 MILBY STREET, PO BOX 220	GREENSBURG	42743	RUSTY	TUNGATE	(270) 932-4211	(270) 932-3504	bodlejtc72@yahoo.com
LNF	HIGHLANDS REGIONAL MEDICAL CENTER	5000 KY ROUTE 321, PO BOX 668	PRESTONSBURG	41653	HAROLD	WARMAN JR.	(606) 886-7602	(606) 886-1316	haleyb@hrmc.org; warman@hrmc.org
LNF	KINGS DAUGHTERS MEDICAL CENTER	2201 LEXINGTON AVE	ASHLAND	41101	KEITH	MOORE	(606) 327-4557		joe.brainard@kdmcdhs.us; kristie.whitlatch@kdmcdhs.us
NH	LAUREL HEIGHTS HOME FOR THE ELDERLY	208 WEST 12TH STREET	LONDON	40743	KATHEY	YOUNG	(606) 864-4155	(606) 878-6780	kyoung@laurelheightsky.com
NH	BOURBON HEIGHTS NURSING HOME	2000 SOUTH MAIN STREET	PARIS	40361	CHARLOTTE	ROBERTS	(606) 987-5750	(859) 987-6460	BHI2000@aol.com; bhicharlotte@aol.com
NH	HERMITAGE CARE AND REHABILITATION CENTER	1614 PARRISH AVENUE, WEST	OWENSBORO	42301	TIFFANY	CLARK	(270) 684-4559	(270) 684-9365	admin.owensboro@shccs.com; jfoster@shccs.com; drock@shccs.co
NH	MAYFAIR MANOR	3300 TATES CREEK ROAD	LEXINGTON	40502	RENEE'	MARTIN	(859) 266-2126	(859) 266-5353	Admin.Mayfair@shccs.com; ctrent@shccs.com; drock@shccs.com
NH	THE VILLAGE OF LEBANON II, LLC	105 VILLAGE WAY	LEBANON	40033	LINDA	ROSS	(270) 692-9000		lross@villageoflebanon.com; yatesdawn@yahoo.com
NH	SHEMWELL NURSING HOME	805 PRINCETON STREET	PROVIDENCE	42450	SHELLEY	LANEVE	(270) 667-5472	(270) 667-7719	shemwellnursing@bellsouth.net
NH	TAYLOR MANOR NURSING HOME	300 BERRY AVENUE	VERSAILLES	40383	MARY	FAUSTINA ZUGELDER	(859) 873-4201	(859) 873-4856	srmayfaustina@taylormanor.org;
NH	THE FORUM AT BROOKSIDE	200 BROOKSIDE DRIVE	LOUISVILLE	40243	WILLIAM	HULSEY	(502) 245-3048	(502) 244-6327	bhulsey@5ssl.com; licensing@5ssl.com



NH	CHRISTIAN HEALTH CENTER	1800 WESTEN AVENUE	BOWLING GREEN	42104	HEATHER	OBANION	(270) 796-6643	(270) 796-6733	Heather.Obanion@ccc1884.org
NH	THE NEIGHBORHOOD NURSING FACILITY	100 NEIGHBORLY WAY	SOMERSET	42503	SHARON	REYNOLDS	(606) 677-0166	(606) 677-0109	sbreynolds@5ssl.com; licensing@5ssl.com
NH	TRINITY STATION RETIREMENT COMMUNITY	2121 ARGILLITE ROAD	FLATWOODS	41139	JAMES	BAILEY	(606) 833-1111		Advancedliving@aol.com
NH	WESLEY VILLAGE	1125 LEXINGTON ROAD	WILMORE	40390	GLEND A	CREECH	(859) 858-3865	(859) 858-4868	gcreech@wvillage.org
NH	EPISCOPAL CHURCH HOME	7504 WESTPORT ROAD	LOUISVILLE	40222	ANNE	VENO	(502) 736-7800	(502) 425-5277	annev@echky.org
NH	CHRISTIAN HEALTH CENTER	920 SOUTH FOURTH STREET	LOUISVILLE	40203	RAYMOND	DICKSON, JR.	(502) 583-6533	(502) 583-6538	heather.obanion@ccc1884.org
NH	CHRISTIAN HEALTH CENTER	116 SOUTH COMMONWEALTH AVENUE	CORBIN	40702	WILLIAM	COLLINS	(606) 528-2886		bill.collins@ccc1884.org
NH	LOUISVILLE PROTESTANT ALTERNATIVE	936 BARRETT AVENUE	LOUISVILLE	40204	MARY JO	COKER	(502) 584-7417	(502) 589-4346	mjcoker@thelaltenheim.org
NH	CEDAR RIDGE HEALTH CAMPUS	1217 US HIGHWAY 62 E	CYNTHIANA	41031	SOMER	HURSTON	(859) 234-2702		Somer.Hurston@cedarridgehs.com; Kathy.Corbin@trilogyhs.com
NH	SACRED HEART VILLAGE	2120 PAYNE STREET	LOUISVILLE	40206	KIM	THIENEMAN	(502) 895-9425	(502) 357-5549	kthieneman@healthpartners.org
NH	CHRISTIAN HEALTH CENTER	200 STERLING DRIVE	HOPKINSVILLE	42240	FRANCES	MARKO	(270) 885-1166		fran.marko@ccc1884.org
NH	BRECKIN RIDGE PLACE	170 SYKES BOULEVARD	MORGANFIELD	42437	KATHY	POGUE	(270) 389-1133		kathy.pogue@breckinridgehealthservices.org
NH	MADONNA MANOR	2344 AMSTERDAM ROAD	VILLA HILLS	41017	MARK	MULLAHY	(859) 341-3981		markm@madonnamanor.org
NH	SAYRE CHRISTIAN VILLAGE NURSING HOME	3775 BELLEAUWOOD DRIVE	LEXINGTON	40517	ANN	SCOGGINS	(859) 271-9000		ascoggins@sayre.us

NH	RIVER'S BEND RETIREMENT COMMUNITY	300 BEECH STREET	KUTTAWA	42055	JUSTIN	LADD	(270) 388-2868	(270) 388-7865	justin.ladd@eidetik.com
NH	WINDSOR GARDENS CCRC	103 ISAAC GREER COURT	BARDSTOWN	40004	KATIE	SIMPSON	(502) 349-6214		
PCH Freestanding	ARDEN COURTS OF LOUISVILLE	10451 LINN STATION ROAD	LOUISVILLE	40223	ANTHONY	OBERTATE	(502) 423-8776	(502) 423-8608	682ED@hcrmanorcare.com; licensure-support@hcrmanorcare.com
PCH Freestanding	ARTRIPS PERSONAL CARE HOME	3000 CENTRAL AVENUE	ASHLAND	41101	MAGGIE	ARTRIP	(606) 325-3244	(606) 325-3811	
PCH Freestanding	AUTUMN RIDGE PERSONAL CARE	4880 STATE ROUTE 121 SOUTH	MAYFIELD	42066	TINA	PAGE	(270) 345-2116	(270) 345-2991	none
PCH Freestanding	BAPTIST TOWERS	800 HIGHLAND AVENUE	COVINGTON	41011	ERIN	KOSHOVER	(859) 491-3800		ekoshover@blcnky.com; dennis@pakerfirm.com
PCH Freestanding	BARTON HOUSE OF LOUISVILLE #1	6830 OVERLOOK DR	LOUISVILLE	40241	ANGELIQUE	WELLS	(502) 423-7177	(502) 423-7177	wellsangelique@gmail.com
PCH Freestanding	BELMONT VILLAGE	4600 BOWLING BOULEVARD	LOUISVILLE	40207	THEODORE	BURFICT	(502) 721-7500	(502) 896-8224	ddavis@belmontvillage.com tburfict@belmontvillage.com
PCH Freestanding	BISHOP SOENNEKER HOME, INC	9545 KY 144	PHILPOT	42366	PAULA	HAZEL	(270) 281-4881	(270) 281-5804	paula.hazel@pastoral.org
PCH Freestanding	BRECKINRIDGE MANOR	605 MURRY STREET	CLOVERPORT	40111	CATHY	SMILEY	(270) 788-3723		jvinsonjr@hsokfy.com
PCH Freestanding	BRIDGEPOINTE AT ASHGROVE WOODS	5220 GREY OAK LANE	NICHOLASVILLE	40356	POLLY	WEST	(502) 254-4200		polly.west@ccc1884.org; linda.johnson@ccc1884.org
PCH Freestanding	BROOKDALE BLANKENBAKER	901 BLANKENBAKER ROAD	MIDDLETOWN	40243	STEVEN	ROBISON	(502) 244-4244	(502) 244-4247	steven.robison@brookdaleliving.com; cstrasbirg@brookdale.com
PCH Freestanding	BROOKDALE STONESTREET	9251 STONESTREET ROAD	LOUISVILLE	40272	PAULA	DUMONT	(502) 935-5884		Stonecreek-ED@emeritus.com; cstrasburg@

									brookdale.com
PCH Freestanding	CANEY CREEK REHABILITATION COMPLEX	6870 HIGHWAY 899	PIPPA PASSES	41844	SONYA	MELTON	(606) 368-2802		sc.melton@yahoo.com
PCH Freestanding	CARROLLTON MANOR	205 FIFTH STREET	CARROLLTON	41008	MELISSA	TUCKER	(502) 732-5528	(502) 732-0426	jvinsonjr@INSIGHTBB.COM; mmcburney33@yahoo.com
PCH Freestanding	CENTRAL KENTUCKY RECOVERY CENTER	1350 BULL LEA ROAD	LEXINGTON	40511	JENNIFER	SMITH	(859) 246-8111		jennifer.smith4@uky.edu
PCH Freestanding	CENTRAL KENTUCKY RECOVERY CENTER, UNIT 2	1366 BULL LEA ROAD	LEXINGTON	40511	JENNIFER	SMITH	(502) 564-7702		jennifer.smith4@uky.edu
PCH Freestanding	CHRISTIAN COUNTY MANOR, LLC	2820 RICHARD STREET	HOPKINSVILLE	42240	MARIA	MARTINEZ	(270) 886-9900	(270) 886-9904	trseaver@netzero.net; mmartinez3713@yahoo.com
PCH Freestanding	COLONIAL GARDENS	6910 HOPEFUL ROAD	FLORENCE	41042	KEN	KASER	(859) 525-6900	(859) 647-3073	ken.kaser@rhf.org
PCH Freestanding	COLONIAL HALL MANOR	920 HENRY CLAY STREET	SHELBYVILLE	40065	JESSICA	RITTER	(502) 633-4762	(502) 633-1479	jvinsonjr@hs ofky.com (John Vinson, Jr.)
PCH Freestanding	COLONIAL HOUSE OF SHEPHERDSVILLE	1516 EAST HIGHWAY 44E	SHEPHERDSVILLE	40165	ROBIN	PETTY	(502) 543-7042		colonialhouses@windstream.net
PCH Freestanding	CORNERSTONE MANOR, LLC	515 WATER STREET	SCOTTSVILLE	42164	WANDA	MEADOR	(270) 237-3485	(270) 239-7824	vaughtlaw@gmail.com
PCH Freestanding	COVINGTON LADIES HOME	702 GARRARD STREET	COVINGTON	41011	JANET	BORTON	(859) 431-6913		jborton@covingtonladieshome.org
PCH Freestanding	CRESTVIEW PERSONAL CARE HOME	235 SOUTH RICHARDSON DRIVE	SOMERSET	42501	MELISSA	CREEKMORE	(606) 678-8927	(606) 677-9989	crestviewpcal@windstream.net
PCH Freestanding	CUMBERLAND MANOR REST HOME	1930 HIGHWAY 90	PARKERS LAKE	42634	ROSETTA	PATRICK	(606) 376-5951	(606) 376-5899	vaughtlaw@gmail.com

PCH Freestanding	DAVCO REST HOME, LLC	2526 WEST 10TH STREET	OWENSBORO	42301	STACEY	HELTON	(270) 684-1705	(270) 686-8266	davcohomes@owens.twc.bc.com
PCH Freestanding	DISHMAN PERSONAL CARE HOME	220 WORSHAM LANE	MONTICELLO	42633	CHRISTINE	GOFF	(606) 348-6201	(606) 348-3904	
PCH Freestanding	ELMCROFT AT OAKLAWN	100 SHELBY STATION DRIVE	LOUISVILLE	40245	DENNIS	BROOKS	(502) 753-6394		dbrooks@elmcroftseniorliving.com
PCH Freestanding	EMERITUS AT EDGEWOOD	2950 TURKEYFOOT ROAD	EDGEWOOD	41017	CHERI	CONES	(859) 426-1888	(859) 426-1889	ccones@brookedale.com; agalati@brookedale.com
PCH Freestanding	FALMOUTH NURSING HOME	406 BARKLEY STREET	FALMOUTH	41040	TRACY	WINKLE	(859) 654-4341	(859) 654-4342	
PCH Freestanding	FERN TERRACE OF BOWLING GREEN, LLC	1030 SHIVE LANE	BOWLING GREEN	42101	VALERIE	CARTER	(270) 781-6784	(270) 782-2037	valarie.carter17@yahoo.com
PCH Freestanding	FERN TERRACE OF MAYFIELD, LLC	1227 STATE ROUTE 45 NORTH	MAYFIELD	42066	KIMBERLY	YOUNG	(270) 247-3259	(270) 247-8414	Maf_fernterrace@yahoo.com
PCH Freestanding	FERN TERRACE OF MURRAY, LLC	1505 STADIUM VIEW DRIVE	MURRAY	42071	KAREN	GLOVER	(270) 753-7109	(270) 759-4435	kglover@newwavecom.net
PCH Freestanding	FERN TERRACE OF OWENSBORO, LLC	45 WOODFORD AVENUE	OWENSBORO	42301	SYLVIA	MARTIN	(270) 684-7171	(270) 684-7150	fernterraceowensboro@gmail.com
PCH Freestanding	FRASURE'S PERSONAL CARE HOME, INC	1308 RIVERVIEW ROAD	ASHLAND	41101	VALERIE	FRASURE	(606) 836-7095	(606) 836-9678	frasurev@gmail.com
PCH Freestanding	GAINSVILLE MANOR	550 MOORES DRIVE	HOPKINSVILLE	42241	TALUMICA	KAY	(270) 886-0258	(270) 885-7295	talumica@aol.com
PCH Freestanding	GAITHER SUITES AT WEST PARK	4960 VILLAGE SQUARE DRIVE	PADUCAH	42001	JENNIFER	GISH	(270) 442-3999	(270) 442-2261	jgish@gaithe rsuites.com; spuckett@gaithe rsuites.com
PCH Freestanding	GENERATIONS CENTER OF MIDDLESBORO	504 SOUTH 24TH STREET	MIDDLESBORO	40965	DONNA	HOOVER	(606) 248-1540		buffy6976@yahoo.com; donnahoover393@yahoo.com

PCH Freestanding	GOLDEN YEARS REST HOME	14684 EAST HIGHWAY 550	LACKEY	41643	BONNIE	MOSLEY	(606) 946-2220	(606) 946-2793	
PCH Freestanding	HAMILTON'S PCH	250 WEST CENTRAL AVENUE	ASHLAND	41101	JAMES	HAMILTON	(606) 324-3252	(606) 324-3252	corndoggman@hotmail.com
PCH Freestanding	HARPER'S HOME FOR THE AGED	2905 COLUMBIA ROAD	EDMONTON	42129	CARY	DABNEY	(270) 432-5202	(270) 432-5202	cndabney@twc.com; lcparnell@yahoo.com
PCH Freestanding	HART COUNTY MANOR	205 BRIDGE STREET	MUNFORDVILLE	42765	MICHAEL	VAUGHT	(270) 524-7327	(270) 524-7326	mvaught@live.com
PCH Freestanding	HEARTS ONG MEMORIAL CARE	9260 STONESTREET ROAD	LOUISVILLE	40272	SHEILA	CARTER	(502) 935-3300		slcarter@heartsong-mc.com
PCH Freestanding	HENDERSON MANOR	201 WATSON LANE	HENDERSON	42420	KAREN	WILSON	(270) 826-2394	(270) 826-9885	karen.wilson@mdhmanagementgroup.com cc:molly.knigge@mdh...
PCH Freestanding	HIGHLAND HOMES	219 STEVENS AVENUE	PRINCETON	42445	LUCRETIA	FAUGHN	(270) 365-3254	(270) 365-3268	highlandhomes@bellsouth.net; joanieplc@bellsouth.net
PCH Freestanding	HILLTOP MANOR RESIDENTIAL CARE FACILITY	521 EAST HIGH STREET	OWINGSVILLE	40360	SALLY	BAXTER	(606) 674-2222		sbaxter@pmdky.com
PCH Freestanding	HOMEWOOD RESIDENCE AT RICHMOND PLACE	3195 RIO DOSA DRIVE	LEXINGTON	40509	ASHLEY	CASE	(859) 269-6308	(859) 266-3608	acase@brookdale.com
PCH Freestanding	JONESVILLE REST HOME	230 SCHOOL ROAD	JONESVILLE	41052	SHANNON	DALTON	(859) 824-4610	(859) 824-0794	resthome@wkybb.net
PCH Freestanding	KINGS DAUGHTERS AND SONS HOME	1100 BATH AVENUE	ASHLAND	41101	STEVE	PERRY	(606) 324-0343	(606) 329-1545	steveperrykds@roadrunner.com
PCH Freestanding	LEWIS MEMORIAL METHODIST HOME	2905 BOWLING GREEN ROAD	FRANKLIN	42134	DOROTHY	CLARK	(270) 586-3461	(270) 586-8915	DcClarke59@aol.com
PCH Freestanding	MAYFAIR VILLAGE RETIREMENT CENTER	3310 TATES CREEK ROAD	LEXINGTON	40502	SHARON	DAVIS	(859) 266-2129		sdavis@oentprises.com
PCH Freestanding	MCDOWELL PLACE	1181 BEN ALI DRIVE	DANVILLE	40422	SUSAN	MATHERLY	(859) 239-4663		smatherly@emrmc.org

	OF DANVILLE								
PCH Freestanding	MORNING POINTE OF FRANKFORT	851 CARDWELL LANE	FRANKFORT	40601	CHARLENE	GROVES	(502) 226-5888		frankfort@morningpointe.com; lharrison@ihpllc.com
PCH Freestanding	MORNING POINTE OF LEXINGTON	233 RUCCIO WAY	LEXINGTON	40503	LIZ	CHAPPELL	(423) 238-5330		lexington-ed@morningpointe.com
PCH Freestanding	MORNING POINTE OF LEXINGTON EAST	150 SHORESIDE DRIVE	LEXINGTON	40515	LISA	HARRISON	(423) 238-5330		lexingtoneast@morningpointe.com; lharrison@ihpllc.com
PCH Freestanding	MORNING POINTE OF RICHMOND	1400 GIBSON BAY DRIVE	RICHMOND	40475	WANDA	GILBERT	(859) 626-5000	(859) 626-8543	richmond-ed@morningpointe.com; lking@ihpllc.com
PCH Freestanding	MORNING POINTE RIDGE	1000 ADDINGTON DRIVE	RUSSELL	41169	WANDA	PARKER	(606) 833-1120		ridge-ed@morningpointe.com; lking@ihpllc.com
PCH Freestanding	PARKSIDE MANOR LLC	317 ODDVILLE AVENUE	CYNTHIANA	41031	KELLI	BAILEY	(859) 234-4430	(859) 234-2014	parksidemanor@gmail.com
PCH Freestanding	PARR'S REST HOME	3101 NORTH HURSTBOURNE PARKWAY	LOUISVILLE	40241	JILL	PHILLIPS	(502) 412-3775	(502) 420-7721	bhi3001@bellsouth.net; jphillips@springhurstpines.org
PCH Freestanding	PENNYRIE HOME	502 NOEL AVENUE	HOPKINSVILLE	42240	PHYLLIS	BURKE	(270) 886-9915	(270) 886-2286	pennyriehome@bellsouth.net
PCH Freestanding	REGENCY MANOR	11725 MADISON PIKE	INDEPENDENCE	41051	KELLI	BAILEY	(859) 356-9294	(859) 356-9535	regencymanor@fuse.net
PCH Freestanding	REGENCY MANOR NORTH	401 EAST 20TH STREET, 2ND FLOOR	COVINGTON	41011	KELLI	BAILEY	(859) 760-5321		regencymanor@fuse.net
PCH Freestanding	ROSE TERRACE LODGE	401 NORTH SECOND STREET	NICHOLASVILLE	40356	JENNIFER	HOLLAND	(859) 885-3821	(859) 885-1443	jvinsonjr@hsoky.com
PCH Freestanding	ROSEDALE REST HOME	415 SUTTON LANE	OWENSBORO	42301	TIFFANY	JOHNSON	(270) 684-6753		tiffany.thurbym@mdhmanagementgroup.com; molly.knigge@mdh...
PCH Freestanding	RUSSELL CONVAL ESCENT HOME	407 FERRY ROAD	RUSSELL	41169	TERESA	BAUMGARDNER	(606) 836-5616	(606) 836-3879	

PCH Freestanding	SCOTTSVILLE MANOR	824 NORTH FOURTH	SCOTTSVILLE	42164	LESA	KEEN	(270) 237-5182	(270) 237-4573	scottsvillemanor@gmail.com; scottsvillem@gmail.com
PCH Freestanding	SHADY LAWN LLC	108 S MILLER STREET	CYNTHIANA	41031	KELLI	BAILEY	(859) 234-2606	(859) 234-6684	shadylawn@gmail.com
PCH Freestanding	SOMERVIEW PERSONAL CARE HOME	202 NORTH MAIN STREET	SOMERSET	42502	MELISSA	CREEKMORE	(606) 678-0440	(606) 451-0582	somerviewpc@windstream.net
PCH Freestanding	SPARKS NURSING CENTER	500 EAST WHITMER STREET	CENTRAL CITY	42330	LULA	WADE	(270) 754-4838	(270) 754-4748	sparksnursing@bellsouth.net
PCH Freestanding	ST CHARLES CARE CENTER, INC	610 FARRELL DRIVE	COVINGTON	41011	KAREN	SMITH	(859) 331-3224		nsmith@stcharlescommunity.org
PCH Freestanding	SUNNY ACRES	426 HIGHWAY 81 NORTH	CALHOUN	42327	MARK	HUMPHREY	(270) 273-3113	(270) 273-3311	sunnyacresinc@bellsouth.net
PCH Freestanding	SUNRISE OF LOUISVILLE	6700 OVERLOOK DRIVE	LOUISVILLE	40241	DONALD	SCHWINN	(502) 425-0820		louisville.ed@sunriseseniorliving.com
PCH Freestanding	SUNSET HILL PERSONAL CARE HOME	1428 TYRONE ROAD	LAWRENCEBURG	40342	MILDRD	GOODLET	(502) 839-4835		Millie40342@aol.com
PCH Freestanding	THE BRECKINRIDGE	2109 CORNERSTONE DRIVE	LEXINGTON	40509	ELLEN	FIDLER	(859) 543-0824		ehfidler@aol.com
PCH Freestanding	THE FRONT GATE, LLC	213 MAIN STREET	BUTLER	41006	RHONDA	BOTHMAN	(859) 472-6011		rrhondoo@hotmail.com
PCH Freestanding	THE HOMESTEAD	384 THOMPSON AVENUE	MADISONVILLE	42431	STACEY	KUEHNE	(270) 821-5294	(270) 825-2956	joeyskaggs@hotmail.com; sjkuehne@hotmail.com
PCH Freestanding	THE LANTERN AT MORNING POINTE ALZ & MEMORY CARE	225 RUCCIO WAY	LEXINGTON	40503	BRIAN	HENRIOTT	(423) 238-5330		lexlaned@morningpointe.com; lharrison@ihpllc.com
PCH Freestanding	THE LANTERN AT MORNING POINTE OF FRANKFORT	66 C MICHAEL DAVENPORT BOULEVARD	FRANKFORT	40601	MARY	ROBINSON	(502) 226-7118		frankfort-lan-ed@morningpointe.com; lking@ihpllc.com

PCH Freestanding	THE LAURELS	169 COUNTY PIKE	HARLAN	40831	DAVID	MULLINS	(606) 573-5105	(606) 573-2184	laurelsinc@bellsouth.net
PCH Freestanding	THE LEGACY AT THE WILLOWS	2521 OLD ROSEBUD ROAD	LEXINGTON	40509	BETH	BLAIR	(859) 543-0337		Beth.Blair@willowsathamburg.com; kathy.corbin@trilogyhs.com
PCH Freestanding	THE LEGACY GENESIS HEALTH CARE	4747 ALBEN BARKELY DRIVE	PADUCAH	42001	SHARON	WARREN	(270) 534-0620	(270) 534-0312	sharon.warren@genesis-hcc.comvirginia.love@genesis-hcc.com
PCH Freestanding	THE OAKS PCH/LEWISPORT	1580 FOURTH STREET	LEWISPORT	42351	CHRIS	BOLEN	(270) 295-4255	(270) 295-7685	cc:molly.knigge@mdhmanagementgroup.com
PCH Freestanding	THE OAKS PCH/MADISONVILLE	140 GIVENS STREET	MADISONVILLE	42431	DIANE	KEOWN	(270) 821-2155	(270) 821-2708	diane.keown@mdhmanagementgroup.com;
PCH Freestanding	THE VILLA AT CHEVY CHASE, LLC	319 DUKE ROAD	LEXINGTON	40502	SHANNON	FAULCONER	(859) 266-6031		sfalconer@windstream.net
PCH Freestanding	TRIGG COUNTY MANOR	66 SHELBY STREET	CADIZ	42211	ANTOINETTE	LLANES	(270) 522-3711	(270) 522-3844	trseaver@netzero.net; triggcom@yahoo.com
PCH Freestanding	VALLEY HAVEN REST HOME	190 MCDANIEL STREET	SANDERS	41083	TAMMIE	HEARN	(502) 347-5300		gwransdell@yahoo.com; tammiehearn2011@gmail.com
PCH Freestanding	VENTURE HOME OF PAINTSVILLE, LLC	610 F M STAFFORD AVENUE	PAINTSVILLE	41240	NORLENE	LAFFERTY	(606) 789-5576	(606) 789-8612	vha_norlene@yahoo.com
PCH Freestanding	WAYNESBURG MANOR, LLC	765 HIGHWAY 3276	WAYNESBURG	40489	MICHAEL	VAUGHT	(606) 379-2614		mvaught@live.com
S/NF DP	FRANCIS CAN HEALTH CARE CENTER	3625 FERN VALLEY ROAD	LOUISVILLE	40219	ABDOULIE	CHAM	(502) 964-3381	(502) 964-3395	Katherine.Alexander@franciscanhc.com
S/NF DP	SPRINGHURST HEALTH AND REHAB	3001 N. HURSTBOURNE PKWY.	LOUISVILLE	40241	LESLIE	BUTTERFIELD	(502) 426-5531	(502) 420-7776	lbutterfield@springhurstpines.org
S/NF DP	BOURBON HEIGHTS NURSING HOME	2000 SOUTH MAIN STREET	PARIS	40361	CHARLOTTE	ROBERTS	(859) 987-5750	(859) 987-6460	BHI2000@aol.com; bhicharlotte@aol.com



S/NF DP	GREENWOOD NURSING & REHABILITATION CENTER	5079 SCOTTSVILLE RD.	BOWLING GREEN	42104	JONATHAN	MCGUIRE	(270) 782-1125	(270) 782-6952	grw71-admin@greenwoodnursing.com
S/NF DP	SOMERWOODS NURSING & REHABILITATION CENTER	555 BOURNE AVENUE	SOMERSET	42501	BRIAN	JAGGERS	(606) 679-7421	(606) 677-0794	swd24-admin@somerwoods.com
S/NF DP	HEARTLAND OF LOUISVILLE	4200 BROWNS LANE	LOUISVILLE	40220	BEVERLY	EDWARDS	(502) 459-8900	(502) 459-5026	4055ADMIN@hcr-manorcare.com
S/NF DP	EPISCOPAL CHURCH HOME	7504 WESTPORT ROAD	LOUISVILLE	40222	ANNE	VENO	(502) 736-7800	(502) 425-5277	annev@eckky.org
S/NF DP	GEORGETOWN MANOR	900 GAGEL AVENUE	LOUISVILLE	40216	RAYMOND	BELL	(502) 368-5827	(502) 361-0515	rbell.gm@mw.twcbc.com
S/NF DP	HIGHLANDSPRING OF FORT THOMAS	960 HIGHLAND AVENUE	FORT THOMAS	41075	JULIE	LEHMANN	(859) 572-0660	(859) 572-0950	julie.lehmann@carespring.com
S/NF DP	MAYFAIR MANOR	3300 TATES CREEK ROAD	LEXINGTON	40502	RENEE'	MARTIN	(859) 266-2126	(859) 266-5353	Admin.Mayfair@shccs.com; ctrent@shccs.com; drock@shccs.com
S/NF DP	MASONIC HOME OF LOUISVILLE	240 MASONIC HOME DRIVE	MASONIC HOME	40041	SUZANNE	RINNE	(502) 897-4907	(502) 897-8714	srinne@mhky.com
S/NF DP	CHRISTIAN HEALTH CENTER	200 STERLING DR.	HOPKINSVILLE	42240	FRANCES	MARKO	(270) 885-1166	(270) 885-2286	fran.marko@ccc1884.org
S/NF DP	CARMEL HOME	2501 OLD HARTFORD RD.	OWENSBORO	42303	FRANCIS	SCULLY	(270) 683-0227	(270) 685-3406	karla842@bellsouth.net; srmfrancistera@yahoo.com
S/NF DP	CHRISTIAN HEALTH CENTER	920 SOUTH FOURTH STREET	LOUISVILLE	40203	RAYMOND	DICKISON, JR.	(502) 583-6533	(502) 583-6538	ray.dickison@ccc1884.org
S/NF DP	CHRISTIAN HEALTH CENTER	1800 WESTEN AVENUE	BOWLING GREEN	42104	HEATHER	OBANION	(270) 796-6643	(270) 796-6733	Heather.Obanion@ccc1884.org
S/NF DP	CLARK REGIONAL MEDICAL CENTER	175 HOSPITAL DRIVE	WINCHESTER	40391	CLAYTON	NEIMAN	(859) 745-3500	(859) 745-3517	marsha.chism@lpnt.net; clayton.niemann@lpnt.net

S/NF DP	CLINTON COUNTY CARE & REHABILITATION CENTER	404 NORTH WASHINGTON STREET	ALBANY	42602	DONNA	LEE	(606) 387-6623	(606) 387-5521	admin.clinton@shccs.com; jfooster@shccs.com;drock@shccs.com;
S/NF DP	DOVER MANOR	112 DOVER DRIVE	GEORGETOWN	40324	MICHAEL	FILDEN	(502) 863-9529	(502) 863-2862	michaelf709@gmail.com
S/NF DP	BRACKEN COUNTY NURSING & REHABILITATION CENTER	5269 ASBURY ROAD	AUGUSTA	41002	ERICH	HAYMAN	(606) 756-2156	(606) 756-2474	ADMIN.BRACKEN@SIGNATUREHEALTHCARELLC.COM; ciliff@shccs.com
S/NF DP	SIGNATURE HEALTH CARE OF TRIMBLE COUNTY	50 SHEPHERD LANE	BEDFORD	40006	ELISIA	GNAGIE	(502) 255-3244	(502) 255-7844	drock@shccs.com; ctrent@shccs.com
S/NF DP	SIGNATURE HEALTH CARE OF GEORGETOWN	102 POCAHONTAS TRAIL	GEORGETOWN	40324	JEFF	STIDAM	(502) 863-3696	(502) 868-5254	admin.george@signaturehealthcarellc.com
S/NF DP	SIGNATURE HEALTH CARE OF CHEROKEE PARK	2100 MILLVALE RD.	LOUISVILLE	40205	NICOLLE	MEADE	(502) 451-0990	(502) 459-1018	admin.cherokeepark@shccs.com; drock@shccs.com; ctrent@
S/NF DP	HERITAGE HALL HEALTH & REHABILITATION CENTER	331 SOUTH MAIN STREET	LAWRENCEBURG	40342	DANA	GRAVITT	(502) 839-7246	(502) 839-0744	dgravitt@elmicroftseniorliving.com;p mosley@seniorcare-corp.co
S/NF DP	JEFFERSON MANOR HEALTH & REHABILITATION CENTER	1801 LYNN WAY	LOUISVILLE	40222	JULIE	GDOWSKI	(502) 426-4513	(502) 426-7041	jgdowski@elmicroft.com p mosley@seniorcare-corp.
S/NF DP	LAUREL HEIGHTS HOME FOR THE ELDERLY	208 WEST TWELFTH STREET	LONDON	40743	KATHY	YOUNG	(606) 864-4155	(606) 878-6780	kyoung@laurheightsky.com
S/NF DP	LEXINGTON COUNTRY PLACE	700 MASON HEADLEY ROAD	LEXINGTON	40504	TINA	WHITT	(859) 276-1083	(859) 276-2751	twhitt@5sqc.com; licensing@5sqc.com
S/NF DP	MADONNA MANOR	2344 AMSTERDAM ROAD	VILLA HILLS	41017	MARK	MULLAHY	(859) 341-3981	(859) 578-7475	markm@madonnamanor.org
S/NF DP	SIGNATURE HEALTH	2529 SIX MILE LANE	LOUISVILLE	40220	BRIAN	MUELLER	(502) 491-5560	(502) 491-0214	drock@shccs.com;

	CARE OF EAST LOUISVILLE								ctrent@shccs.com
S/NF DP	SIGNATURE HEALTH CARE OF SOUTH LOUISVILLE	1120 CRISTLAND ROAD	LOUISVILLE	40214	KARA	MEREDITH	(502) 367-0104	(502) 368-5208	admin.southlouisville@shccs.com ctrent@shccs.com
S/NF DP	PARKVIEW NURSING & REHABILITATION CENTER	544 LONE OAK RD.	PADUCAH	42003	LORI	MOBERLY	(270) 443-6543	(270) 443-3312	llmoberly@lcca.com christa_barker@lcca.com
S/NF DP	HERMITAGE CARE AND REHABILITATION CENTER	1614 PARRISH AVE, WEST	OWENSBORO	42301	TIFFANY	CLARK	(270) 684-4559	(270) 684-9365	admin.owensboro@shccs.com; jfooster@shccs.com; drock@shccs.co
S/NF DP	PINEVILLE COMMUNITY HOSPITAL	850 RIVERVIEW AVENUE	PINEVILLE	40977	J MILTON	BROOKS III	(606) 337-3051	(606) 337-4284	tc@pinevillehospital.com
S/NF DP	RIVERSIDE CARE & REHABILITATION CENTER	190 EAST HWY. 136	CALHOUN	42327	TIFFANY	WINCHEL	(270) 273-3783	(270) 273-3794	admin.calhoun@shcc.com; drock@shccs.com; ctrent@shccs.com
S/NF DP	SAYRE CHRISTIAN VILLAGE NURSING HOME	3775 BELLEAU WOOD DRIVE	LEXINGTON	40517	ANN	SCOGGINS	(859) 271-9000	(859) 271-8160	ascoggins@sayre.us
S/NF DP	ROCKCASTLE HEALTH & REHABILITATION CENTER	371 WEST MAIN STREET	BRODHEAD	40409	ALICIA	BULLOCK	(606) 758-8711	(606) 758-0291	admin.rockcastle@shccs.com
S/NF DP	SUNRISE MANOR NURSING HOME	717 NORTH LINCOLN BLVD	HODGENVILLE	42748	CRYSTAL	HAMILTON	(270) 358-3103	(270) 358-8412	Admin.sunrise@shccs.com; drock@shccs.com; ctrent@shccs.com
S/NF DP	SUPERIOR CARE HOME	100 MARSHALL COURT	PADUCAH	42001	TONYA	SENSING	(270) 442-6884	(270) 442-6885	tsensing@superiorcarehome.com; hsims@superiorcarehome.com

S/NF DP	THE FORUM AT BROOKSIDE	200 BROOKSIDE DRIVE	LOUISVILLE	40243	WILLIAM	HULSEY	(502) 245-3048	(502) 244-6327	bhulsey@5s qc.com; licensing@5s qc.com
S/NF DP	TREYTON OAK TOWERS	211 WEST OAK STREET	LOUISVILLE	40203	MIKE	WIDEMAN	(502) 589-3211	(502) 589-7263	mikew@treytonoaktowers.com
S/NF DP	WESTMINSTER TERRACE	2116 BUECHEL BANK ROAD	LOUISVILLE	40218	JENNIFER	GINGERICH	(502) 499-9383	(502) 499-3596	cjennings@p hsk.org; jenniferg@p hsk.org
S/NF DP	WILLIAMSON ARH	260 HOSPITAL DRIVE	SOUTH WILLIAMSON	41503	SONYA	WASSERMAN	(606) 237-1725	(606) 237-4013	thatfield@arh.org; sohunt@arh.org
S/NF DP	WINDSOR CARE CENTER	125 STERLING WAY	MOUNT STERLING	40353	REBECCA	COOLEY	(859) 498-3343	(859) 498-9769	administrator@windsorc are.com
S/NF DP	CHRISTIAN HEALTH CENTER	116 SOUTH COMMONWEALTH AVENUE	CORBIN	40702	WILLIAM	COLLINS	(606) 258-2500	(606) 528-0948	bill.collins@cc1884.org
S/NF DP	COUNTRYSIDE CENTER	47 MARGO AVENUE	BARDWELL	42023	DIANA	FISHER	(270) 628-5424	(270) 628-0311	Diana.Fisher2@genesishcc.com
S/NF DP	CEDAR RIDGE HEALTH CAMPUS	1217 US HIGHWAY 62 E	CYNTHIANA	41031	SOMER	HURSTON	(859) 234-2702	(859) 234-1034	Somer.Hurston@cedarridgehs.com; Kathy.Corbin@trilogyhs.com
S/NF DP	RICHMOND PLACE REHABILITATION AND HEALTH CENTER	2770 PALUMBO DRIVE	LEXINGTON	40509	BENITA	BOGGS DICKENSON	(859) 263-2410	(859) 263-7011	benita.dickenson@brookdaleliving.com
S/NF DP	REDBANKS	851 KIMSEY LANE	HENDERSON	42420	KEN	GRAVES	(270) 826-6436	(270) 826-6456	kgraves@redbanks.org
S/NF DP	THE VILLAGE OF LEBANON II, LLC	105 VILLAGE WAY	LEBANON	40033	LINDA	ROSS	(270) 692-9000		lross@villageoflebanon.com
S/NF DP	MAGNOLIA VILLAGE	1381 CAMPBELL LANE	BOWLING GREEN	42104	AMY	PHELPS	(270) 843-0587	(502) 843-0874	amy.phelps@sunh.com
S/NF DP	WELLINGTON PARC OF OWENSBORO	2885 NEW HARTFORD RD	OWENSBORO	42303	PHILIP	TRAVIS	(270) 685-2374		ptravis@wellingtonparc.com
S/NF DP	VILLAGE CARE CENTER	2990 RIGGS AVENUE	ERLANGER	41018	ANTHONY	ZUBROWSKI	(859) 727-9330	(859) 727-8660	tzubrowski@blcnky.com
S/NF DP	SACRED HEART VILLAGE	2120 PAYNE STREET	LOUISVILLE	40206	KIM	THIENEMAN	(502) 895-9425	(502) 357-5549	kthieneman@health-partners.org;
S/NF DP	VILLASPRING OF	630 VIOX DRIVE	ERLANGER	41018	ADAM	LEWANDOWSKI	(859) 727-6700	(859) 727-6710	adam.lewandowski@car espring.com

	ERLANGER								
S/NF DP	KINGSBROOK LIFECARE CENTER	2500 STATE ROUTE 5	ASHLAND	41102	LISA	QUEEN	(606) 324-1414	(606) 324-3420	lisa.queen@kblc.kdhs.us
S/NF DP	DIVERSICARE OF SENECA PLACE	3526 DUTCHMAN S LANE	LOUISVILLE	40205	JEREMY	ROSENBAUM	(502) 452-6331	(502) 719-0876	61admn@dvcr.com
S/NF DP	PARK TERRACE HEALTH CAMPUS	9700 STONESTREET ROAD	LOUISVILLE	40272	ANGELA	DECKER	(502) 995-6600		LouisvillePT-127-exd@trilogyhs.com;
S/NF DP	BRECKINRIDGE PLACE	170 SYKES BOULEVARD	MORGANFIELD	42437	KATHY	POGUE	(270) 389-1133		kathy.pogue@breckinridgeservices.org
S/NF DP	THE WILLOWS AT HAMBURG	2531 OLD ROSEBUD ROAD	LEXINGTON	40509	RACHEL	HETTINGER	(859) 543-0337		rachel.hettinger@willowsatcitation.com
S/NF DP	CARDINAL HILL REHABILITATION HOSPITAL	2050 VERSAILLES ROAD	LEXINGTON	40504	GARY	PAYNE	(859) 254-5701		Gary.Payne@healthsouth.com
S/NF DP	THE WILLOWS AT CITATION	1376 SILVER SPRINGS DRIVE	LEXINGTON	40511	EMILY	WILLIAMS	(859) 277-0320		Emily.williams@willowsatcitation.com; kathy.corbin@trilogyhs
SNF	BAPTIST HEALTH PADUCAH	2501 KENTUCKY AVENUE	PADUCAH	42003	POLLY	BECHTOLD	(270) 575-2100	(270) 575-2819	pbechtol@bhsi.com
SNF	EPHRAIM MCDOWELL REGIONAL MEDICAL CENTER	217 SOUTH THIRD STREET	DANVILLE	40422	SUSAN	MATHERLY	(859) 239-2336	(859) 239-6718	smatherly@emrmc.org
SNF	FLAGET MEMORIAL HOSPITAL NF	4305 NEW SHEPHERDSVILLE ROAD	BARDSTOWN	40004	SUE	DOWNS	(502) 350-5000	(502) 349-4643	bsd@flaget.com
SNF	JEFFERSON PLACE HEALTH & REHABILITATION CENTER	1705 HERR LANE	LOUISVILLE	40222	TIM	TRAVIS	(502) 426-5600	(502) 429-3193	ttravis@elmcroftseniorliving.com
SNF	NURSING FACILITY OF	913 N. DIXIE AVE.	ELIZABETHTOWN	42701	JOHN	GODFREY	(270) 706-1206	(270) 706-5006	jgodfrey@hmh.net; rjoyce@hmh.net;

	HARDIN MEMORIAL HOSPITAL								
SNF	BAPTIST HEALTH TRANSITIONAL CARE	900 HOSPITAL DR.	MADISONVILLE	42431	JERRY	ROBERTSON	(270) 825-5600	(270) 326-5014	jroberts@trover.org; phill@trover.org
SNF	ST CLAIRE MEDICAL CENTER	222 MEDICAL CIRCLE	MOREHEAD	40351	KEVIN	TRENT	(606) 783-6650	(606) 783-6658	kevin.trent@st-claire.org; BCStanley@st-claire.org
SNF	ST ELIZABETH THOMAS SNF	85 NORTH GRAND AVENUE	FORT THOMAS	41075	AMY	THOMPSON	(859) 572-3530	(859) 572-2367	Amy.Thompson@stelizabeth.com
SNF	ST ELIZABETH FLORENCE SNF	4900 HOUSTON ROAD	FLORENCE	41042	AMY	THOMPSON	(859) 212-4302	(859) 962-5036	Amy.thompson@stelizabeth.com
SNF	TANBARK HEALTH & REHABILITATION CENTER	1121 TANBARK ROAD	LEXINGTON	40515	CONJUNA	COLLIER	(859) 273-7377	(859) 271-7747	<a href="mailto:ccollier@seniorcare-corp.com">ccollier@seniorcare-corp.com</a> ; <a href="mailto:pmosley@seniorcare-corp.com">pmosley@seniorcare-corp.com</a>
SNF	LAKE CUMBERLAND REGIONAL HOSPITAL SCU	305 LANGDON STREET	SOMERSET	42502	JEFF	HERNDON	(606) 678-3323	(606) 451-2939	jennifer.phillips1@lpnt.net or tanya.nelson-hackney@lpnt.net
SNF	THE TRANSITIONAL CARE CENTER OF OWENSBORO	1201 PLEASANT VALLEY ROAD	OWENSBORO	42303	JOY	EVERLY	(270) 688-2000	(270) 688-3334	Joy.everly@omhs.org
SNF	TJ SAMSON COMMUNITY HOSPITAL	1301 N RACE ST	GLASGOW	42141	NANCY	STEELE	(270) 651-4444	(270) 651-4427	n.steele@tjsamson.org; mtooley@tjsamson.org
SNF	TELFORD TERRACE	1025 ROBERT L TELFORD DRIVE	RICHMOND	40475	GILBERT	SHEW	(859) 626-5200	(859) 626-5815	gshew@standrewsplace.org
SNF	OAKLAWN HEALTH & REHABILITATION CENTER	300 SHELBY STATION DRIVE	LOUISVILLE	40245	MARY	STEPHENS	(502) 254-0009	(502) 753-6460	bstephens@seniorcare-corp.com; pmosley@seniorcare-corp.com

SNF	GLEN RIDGE HEALTH CAMPUS	6415 CALM RIVER WAY	LOUISVILLE	40299	RHONDA	MULLINS	(502) 297-8590	(502) 297-8766	rhonda.mullins@glenridgehc.com
SNF	WESTPORT PLACE HEALTH CAMPUS	4247 WESTPORT ROAD	LOUISVILLE	40207	RACHEL	BUFFORD	(502) 893-3033		Rachel.Bufford@westportplacehc.com; kathy.corbin@trilogyhs.c
SNF	FOREST SPRINGS HEALTH CAMPUS	4120 WOODED ACRE LANE	LOUISVILLE	40245	KATHERINE	ALEXANDER	(502) 243-1643		Katherine.Alexander@forestspringshc.com
SNF	SIGNATURE HEALTH CARE AT STS MARY & ELIZABETH HOSPI	1850 BLUEGRASS AVENUE, UNIT 3C	LOUISVILLE	40215			(502) 361-6000		admin.stmary@shccs.com; drock@shccs.com
SNF/NF	KENWOOD HEALTH AND REHABILITATION CENTER	130 MEADOWLARK DRIVE	RICHMOND	40475	GLENN	COX	(859) 623-9472	(859) 625-3065	Glenn.Cox@pcitexas.net; becky.allen@pcpmg.net
SNF/NF	MCCREARY HEALTH AND REHABILITATION	58 CAL HILL ROAD	PINE KNOT	42635	SAM	HUTCHINSON	(606) 354-3155	(606) 354-3260	shutchinson@mccrearyhealthandrehab.com; pmosley@seniorcare-c
SNF/NF	ROSEDALE GREEN	4250 GLENN AVENUE	COVINGTON	41015	LONDA	KNOLLMAN	(859) 431-2244	(859) 431-7790	lknollman@rosedalegreen.org
SNF/NF	HAWES MEMORIAL NURSING & REHAB CENTER	1004 HOLIDAY LANE	FULTON	42041	ROBIN	CHAPPELL	(270) 472-1971	(270) 472-3775	rchappell3@me.com; aubreypreston@mac.com
SNF/NF	SIGNATURE HEALTH CARE AT GLENVIEW	6000 HUNTING RD.	LOUISVILLE	40222	CHARLES	MAYER	(502) 426-1425	(502) 426-1017	admin.glenview@shccs.com; drock@shccs.com; ctrent@shccs.com
SNF/NF	BAPTIST CONValesCENT CENTER	120 MAIN STREET	NEWPORT	41071	DONNA	FRODGE	(859) 581-1938	(859) 581-0190	dfrodge@blcnky.com
SNF/NF	GOLDEN LIVING CENTER - HILLCREEK	3116 BRECKINRIDGE LANE	LOUISVILLE	40220	RENAVY	ADKINS	(502) 459-9120	(502) 459-0091	Renay.Adkins@goldenliving.com; Stephanie.Benjamin@goldenlivi

SNF/NF	AUBURN HEALTH CARE	139 PEARL ST.	AUBURN	42206	TIFFANY	HINTON	(270) 542-4111	(270) 542-7026	tiffanyhinton@bolster-jeffries.com; dmiller@bolster-jeffries
SNF/NF	BARREN COUNTY HEALTH CARE CENTER	300 WESTWOOD ST.	GLASGOW	42141	STEVE	BROWN	(270) 651-9131	(270) 651-6989	fsbrown@glasgow-ky.com; bchcc@glasgow-ky.com
SNF/NF	KINDRED NURSING AND REHABILITATION-BASHFORD	3535 BARDSTOWN ROAD	LOUISVILLE	40218	ADAM	MATHER	(502) 459-1400	(502) 459-1407	Adam.Mather@kindred.com; shirley.ryan@kindred.com
SNF/NF	BEAVER DAM NURSING & REHAB CENTER, INC	1595 US HWY 231 S.	BEAVER DAM	42320	LAURA	COLE	(270) 274-9646	(270) 274-0484	administrator@bdnrc.com
SNF/NF	BEREA HEALTH CARE CENTER	601 RICHMOND ROAD	BEREA	40403	VICKI	SHORT	(859) 986-4710	(856) 986-7744	vshort@bereahealthcare.com
SNF/NF	THE TERRACE NURSING & REHABILITATION CENTER	1043 BROOKLYN BOULEVARD	BEREA	40403	PAULA	STRUNK	(859) 228-0551	(859) 228-0554	pstrunk@pmdky.com
SNF/NF	GOLDEN LIVING CENTER - FRANKFORT	117 OLD SOLDIERS LANE	FRANKFORT	40601	THOMAS	DAVIS	(502) 875-7272	(502) 226-3733	Thomas.Davis@goldenliving.com; legaldept@goldenliving.com
SNF/NF	TWIN RIVERS NURSING AND REHAB CENTER	2420 W. 3RD ST.	OWENSBORO	42301	CHRISTINA	MALVERN	(270) 685-3141	(270) 684-4867	christina.malvern@pcitexas.net; becky.allen@pcpmg.net
SNF/NF	BOYD NURSING & REHABILITATION CENTER	12800 PRINCELAND DRIVE	ASHLAND	41102	CINDY	SALYERS	(606) 928-2963	(606) 928-3879	28ADMN@Advocat-Inc.com; BWimsatt@DVCR.com
SNF/NF	BRADFORD SQUARE GENESIS HEALTH CARE	1040 US 127 SOUTH	FRANKFORT	40601	JANIE	CUNNINGHAM	(502) 875-5600	(502) 223-1203	Janie.cunningham@genesiscc.com
SNF/NF	BRECKIN RIDGE MEMORIAL NURSING	1011 OLD HIGHWAY 60	HARDINSBURG	40143	ANGELA	PORTMAN	(270) 756-7000	(270) 756-6510	aportman@breckhealth.org;



	G FACILITY								
SNF/NF	RIVERS EDGE NURSING AND REHABILITATION CENTER	6301 BASS ROAD	PROSPECT	40059	JACKIE	CARLIN	(502) 228-8359	(502) 228-5469	ren23-admin@riversedgecare.com
SNF/NF	ESSEX NURSING AND REHABILITATION CENTER	9600 LAMBORNE BOULEVARD	LOUISVILLE	40272	ROBERT	FLATT	(502) 935-7284	(502) 935-3240	esx73-admin@essexnursing.com
SNF/NF	TRICITIES NURSING & REHABILITATION CENTER	19101 US HIGHWAY 119 NORTH	CUMBERLAND	40823	JEFF	WILDER	(606) 589-5421	(606) 589-2097	tct35-admin@tricitiesnursing.com
SNF/NF	BROWN SBORO HILLS HEALTH CARE AND REHABILITATION C	2141 SYCAMORE AVENUE	LOUISVILLE	40206	ROY	BABER	(502) 895-5417	(502) 895-3706	tracey.cavallaro@consulatehc.com
SNF/NF	CAL TURNER REHAB AND SPECIALTY CARE	456 BURNLEY RD.	SCOTTSVILLE	42164	JACQUELINE	WOODWARD	(270) 622-2800	(270) 622-2208	woodjh@chc.net
SNF/NF	CRITTENDEN COUNTY HEALTH & REHABILITATION CENTER	201 WATSON STREET	MARION	42064	JOE	GAMBLE	(270) 965-2218	(270) 965-4433	74-admin@atriumlivingcenters.com
SNF/NF	GLASGOW HEALTH & REHABILITATION CENTER	220 WESTWOOD ST.	GLASGOW	42141	THOMAS	GUMM	(270) 651-3499	(270) 651-7881	tgumm@elmcroft.com; pmosley@seniorcare-corp.com
SNF/NF	GOLDEN LIVINGCENTER-GREEN HILL	213 INDUSTRIAL ROAD	GREENSBURG	42743	DAVID	GARST	(270) 932-4241	(270) 932-6275	david.garst@goldenliving.com
SNF/NF	HAZARD HEALTH & REHABILITATION CENTER	390 PARK AVENUE	HAZARD	41702	CHARLOTTE	THORNSBERRY	(606) 439-2306	(606) 439-2275	chthornsberry@hsmmai.com

SNF/NF	HOME OF THE INNOCENTS	1100 EAST MARKET STREET	LOUISVILLE	40206	JEFF	LEWIS	(502) 596-1000	(502) 561-6633	jlewis@homeoftheinnocents.org
SNF/NF	THE JORDAN CENTER	270 E CLAYTON LN	LOUISA	41230	DAVID	MCKENZIE	(606) 638-4586	(606) 638-0367	davidjr@jjordan.com missy@jjordan.com
SNF/NF	HIGHLANDS HEALTH AND REHABILITATION CENTER	1705 STEVENS AVENUE	LOUISVILLE	40205	ROBERT	DURHAM	(502) 451-7330	(502) 451-5937	59ADMN@DVCR.com; bwimsatt@dvr.com
SNF/NF	KLONDIKE CENTER	3802 KLONDIKE LANE	LOUISVILLE	40218	STEFANIE	JENKINS	(502) 452-1579	(502) 451-9310	Stefanie.Jenkins@GenesisHCC.com
SNF/NF	KNOTT COUNTY HEALTH & REHABILITATION CENTER	388 PERKINS MADDEN ROAD	HINDMAN	41822	RUBY	PIGMAN	(606) 785-5011	(606) 785-5120	rupigman@hsimai.com
SNF/NF	GOLDEN LIVING CENTER - CAMELOT	1101 LYNDON LANE	LOUISVILLE	40222	KATHY	DEARING	(502) 425-0331	(502) 425-9779	Kathy.Dearing@goldenliving.com;
SNF/NF	METCALFE HEALTH CARE CENTER	701 SKYLINE DRIVE	EDMONTON	42129	AMY	WILSON	(270) 432-2921	(270) 432-4300	aneighbors@metcalfehealthcare.org
SNF/NF	SOMERSET NURSING AND REHABILITATION FACILITY	106 GOVER STREET	SOMERSET	42502	JENNIFER	DAVIS	(606) 679-8331	(606) 679-6670	jdavis@pmdky.com
SNF/NF	MILLS HEALTH & REHAB CENTER, INC	500 BECK LANE	MAYFIELD	42066	DAVID	DIETZ	(270) 247-7890	(270) 251-3689	david.dietz@millshealth.com; note-include hyland to emails
SNF/NF	BRADFORD HEIGHTS HEALTH & REHAB CENTER, INC	950 HIGHPOINT DR.	HOPKINSVILLE	42240	LUANNE	COMPERRY	(270) 885-1151	(270) 885-7461	luanne.comperry@AdventistCare.org
SNF/NF	PRINCETON HEALTH & REHAB CENTER, INC	1333 WEST MAIN ST.	PRINCETON	42445	ANDRII	SKRYPKAR	(270) 365-3541	(270) 365-5064	andrii.skrypkar@PrincetonHealthAndRehab.com
SNF/NF	CALVERT CITY CONVAL	1201 FIFTH AVE	CALVERT CITY	42029	LYNN	JONES	(270) 395-4124	(270) 395-4962	calvertccc@onlineky.net

	ESCENT CENTER								
SNF/NF	CEDARS OF LEBANON NURSING CENTER	337 SOUTH HARRISON STREET	LEBANON	40033	JENNIFER	PHILLIPS	(270) 692-3121	(270) 692-6217	jphillips@villageoflebanon.com
SNF/NF	CHARLESTON HEALTH CARE CENTER	203 BRUCE COURT	DANVILLE	40423	MARLIN	SPARKS	(859) 236-9292	(859) 236-3713	chcc4@msn.com; jb.chcc@gmail.com
SNF/NF	NORTHPOINT/LEXINGTON HEALTH CARE CENTER	1500 TRENT BOULEVARD	LEXINGTON	40515	TIFFANY	COX	(859) 271-2273	(859) 271-2945	tcox@northpointlexington.com
SNF/NF	CLINTON - HICKMAN COUNTY NURSING FACILITY	366 S. WASHINGTON ST.	CLINTON	42031	ROLLIE	BUSHOR	(270) 653-2461	(270) 653-4162	rbushor@aol.com; rbushor@clintonicf.com
SNF/NF	COLONIAL HEALTH AND REHABILITATION CENTER	708 BARTLEY AVENUE	BARDSTOWN	40004	WILLIE	NORRIS	(502) 348-9260	(502) 348-9542	lromans@elmicroft.com;
SNF/NF	COLONIAL CENTER	2365 NASHVILLE ROAD	BOWLING GREEN	42101	JESSICA	LOPEZ	(270) 842-1641	(270) 782-9961	Jessica.Lopez@genesishcc.com
SNF/NF	REDBANKS COLONIAL TERRACE	142 ROGER POWELL RD	SEBREE	42455	RICK	HENDRICKSON	(270) 835-2533	(502) 835-9904	rhendrickson@colonial-terrace.com
SNF/NF	COVINGTON'S CONVAL ESCENT CENTER	115 CAYCE ST	HOPKINSVILLE	42240	WILLIAM	COVINGTON	(270) 886-4403	(270) 886-4404	covingtonscovnalescent@hotmail.com
SNF/NF	CRESTVIEW CENTER	1871 MIDLAND TRAIL	SHELBYVILLE	40065	STEVE	MCKINLEY	(502) 633-2454	(502) 633-7890	steve.mckinley@genesishcc.com
SNF/NF	DANVILLE CENTRE FOR HEALTH AND REHABILITATION	642 NORTH THIRD STREET	DANVILLE	40422	STEVEN	COOK, JR.	(859) 236-3972	(859) 236-0703	admin.danville@shccs.com; drock@shccs.com
SNF/NF	EDMONSON CENTER	813 S. MAIN ST.	BROWNSVILLE	42210	CHRIS	SWIHART	(270) 597-2335	(270) 597-2959	Chris.Swihart@genesishcc.com

SNF/NF	LIFE CARE CENTER OF BARDSTOWN	120 LIFE CARE WAY	BARDSTOWN	40004	DEBORAH	GIBSON	(502) 348-4220	(502) 349-0900	Debra_Gibson@lcca.com; misty_blankenship@lcca.com
SNF/NF	FLORENCE PARK CARE CENTER	6975 BURLINGTON PIKE	FLORENCE	41042	GREG	CARSON	(859) 525-0007	(859) 282-4516	Greg.Carson@hcmg.com
SNF/NF	FRIENDSHIP HEALTH AND REHABILITATION, LLC	7400 LAGRANGE RD	PEWEE VALLEY	40056	FRAN	STAHL	(502) 241-8821	(502) 241-4598	gpreece@fmky.org
SNF/NF	PROVIDENCE GALLATIN	499 CENTER STREET	WARSAW	41095	STACIE	DARNOLD	(859) 567-4548	(859) 567-5264	stacie.darnold@gallatinhc.com; cfo@tl5.net
SNF/NF	PROVIDENCE PAVILION	401 EAST 20TH STREET	COVINGTON	41014	ROBERT	DAYE	(859) 283-6600		bdaye@providencenky.com
SNF/NF	GLENVIEW HEALTH CARE FACILITY	1002 GLENVIEW DR.	GLASGOW	42141	YVONNE	COOK	(270) 651-8332	(270) 651-8069	ywcook.ghc@glasgow-ky.com
SNF/NF	THE GOOD SAMARITAN SOCIETY-JEFFERSON TOWN	3500 GOOD SAMARITAN WAY	JEFFERSON TOWN	40299	CLAUDE	MAPP	(502) 267-7403	(502) 267-8978	cmapp@good-sam.com
SNF/NF	GRAND HAVEN NURSING HOME	105 RODGERS PARK	CYNTHIANA	41031	ANGELA	FORSYTHE	(859) 234-2050	(859) 234-2014	aforsythe@grandhaven-nursing.com
SNF/NF	GRANT CENTER	201 KIMBERLY LANE	WILLIAMSTOWN	41097	THOMAS	NIELANDER	(859) 824-7803	(859) 824-9614	Thomas.Nielander@gensishcc.com
SNF/NF	GREEN VALLEY HEALTH & REHABILITATION CENTER	1206 ELEVENTH STREET	CARROLLTON	41045	ALAN	WADE	(502) 732-6683	(502) 732-0330	awade@seniorcare-corp.com; pmosley@seniorcare-corp.com
SNF/NF	GREEN ACRES HEALTH CARE	402 W. FARTHING STREET	MAYFIELD	42066	TERRI	HUMES	(270) 247-6477	(270) 247-0712	thumes@greenacreshealthcare.com
SNF/NF	HARRODSBURG HEALTH & REHABILITATION CENTER	853 LEXINGTON ROAD	HARRODSBURG	40330	PENNY	UPTON	(859) 734-7791	(859) 734-5679	admin.harrodsburg@signaturehealthcarellc.com;

SNF/NF	HART COUNTY HEALTH & REHABILITATION CENTER	1505 SOUTH DIXIE STREET	HORSE CAVE	42749	JIM	REID	(270) 786-2200	(270) 786-6102	cpage@elmcroftseniorliving.com
SNF/NF	HEARTHSTONE PLACE	506 ALLENSVILLE ROAD	ELKTON	42220	ELIZABETH	GETTINGS	(270) 265-5321		egettings@bolsterjeffries.com
SNF/NF	HEARTLAND VILLA CENTER	8005 US HWY 60 WEST	LEWISPORT	42351	PAULA	SANDFER	(270) 295-6756	(270) 295-6759	paula.sandfer@sunh.com
SNF/NF	HERITAGE MANOR HEALTH CARE CENTER	401 INDIANA AVE	MAYFIELD	42066	CYNTHIA	PORTER	(270) 247-0200	(270) 247-8913	Cynthia.porter@kindred.com; shirley.ryan@kindred.com
SNF/NF	HICKS GOLDEN YEARS NURSING HOME	1901 WEST HIGHWAY 90 BYPASS	MONTICELLO	42633	DARRELL	HICKS	(606) 348-6034	(606) 348-6521	darrellwhicks@hotmail.com
SNF/NF	SIGNATURE HEALTH CARE AT HILLCREST	3740 OLD HARTFORD RD	OWENSBORO	42303	BILL	CONLEY	(270) 684-7259	(270) 686-8126	Admin.hillcrest@shccs.com; drock@shccs.com; ctrent@shccs.com
SNF/NF	PROVIDENCE HOMESTEAD	1608 VERSAILLES ROAD	LEXINGTON	40504	SHANE	BLOOD	(859) 252-0871	(859) 389-9571	Shane.Blood@homesteadlexhc.com
SNF/NF	PROVIDENCE NEW CASTLE	50 ADAMS STREET	NEW CASTLE	40050	JEREMY	CALL	(502) 845-2861	(502) 845-1287	Jeremy.Call@newcastlehc.com
SNF/NF	HOPKINS CENTER	460 SOUTH COLLEGE STREET	WOODBURN	42170	VICKI	BUTLER	(270) 529-2853	(270) 529-9836	vicki.butler@GenesisHCC.com
SNF/NF	HURSTBOURNE CARE CENTRE AT STONY BROOK	2200 STONY BROOK DR	LOUISVILLE	40220	MICHELLE	GLOVER	(502) 495-6240	(502) 495-0324	admin@hurstbournecarecenter.com
SNF/NF	JOHNSON MATHERS NURSING HOME	2323 CONCRETE ROAD	CARLISLE	40311	DORIS	ECTON	(859) 289-3492	(859) 289-3493	jma75-admin@johnsonmathers.com
SNF/NF	MORGANTOWN CARE & REHABILITATION CENTER	201 SOUTH WARREN STREET	MORGANTOWN	42261	LOGAN	MIDKIFF	(270) 526-3368	(270) 526-3793	admin.morgantown@shccs.com; lduval@shccs.com; drock@shccs.com
SNF/NF	LAUREL CREEK HEALTH	1033 NORTH HIGHWAY 11	MANCHESTER	40962	CLARA	BENGE	(606) 598-6163	(606) 598-6164	clara_benge@lcca.com

	CARE CENTER								
SNF/NF	LEE COUNTY CARE & REHABILITATION CENTER	246 EAST MAIN STREET	BEATTYVILLE	41311	SUSAN	BUSH	(606) 464-3611	(606) 464-9214	admin.lee@shccs.com; ctrent@shccs.com
SNF/NF	OWENSBORO CENTER	1205 LEITCHFIELD RD.	OWENSBORO	42303	WENDALL	SMITH	(270) 684-0464	(270) 684-0499	wendell.smith@genesishcc.com
SNF/NF	LIFE CARE CENTER OF LACENTER	252 W. 5TH ST.	LA CENTER	42056	GINGER	ATKINS	(270) 665-5681	(270) 665-9766	ggatkins@lcca.com
SNF/NF	LIFE CARE CENTER OF MOREHEAD	933 NORTH TOLLIVER ROAD	MOREHEAD	40351	WILLIAM	HURST	(606) 784-7518	(606) 784-7619	Bill_Hurst@lcca.com
SNF/NF	LITTLE SISTERS OF THE POOR	15 AUDUBON PLAZA DRIVE	LOUISVILLE	40217	MAUREEN	COURTNEY	(502) 636-2300	(502) 636-2239	adlouisville@littlesistersofthepoor.org
SNF/NF	LORETTA MOTHER HOUSE INFIRMARY	515 NERINX ROAD	NERINX	40049	MICHELLE	ESSEX	(270) 865-5811	(270) 865-5013	messex@lorettomotherhouse.org
SNF/NF	KINDRED NURSING AND REHABILITATION-MAPLE	515 GREENE DRIVE	GREENVILLE	42345	JASON	ARMSTRONG	(270) 338-5400	(270) 338-0507	jason.armstrong@kindred.com; shirley_ryan@kindredhealthcare.
SNF/NF	MAYSVILLE NURSING AND REHABILITATION FACILITY	620 PARKER ROAD	MAYSVILLE	41056	CORTNEY	BURKHART	(606) 564-8835	(606) 564-8835	cburkhart@pmdky.com
SNF/NF	CAMBRIDGE PLACE	2020 CAMBRIDGE DRIVE	LEXINGTON	40504	CARA	CLARK	(859) 252-6747	(859) 255-9914	Cclark@cambridgepl.com
SNF/NF	MEADOWVIEW HEALTH AND REHABILITATION CENTER	9701 WHIPPS MILL RD.	LOUISVILLE	40223	LISA	ROMANS	(502) 426-2778	(502) 426-7211	pupton@elmcroftseniorliving.com; pmosley@seniorcare-corp.co
SNF/NF	BOWLING GREEN NURSING AND REHABILITATION CENTER	1561 NEWTON AVE.	BOWLING GREEN	42104	TRACIE	SHERFEY	(270) 842-1611	(270) 746-0957	tracie.sherfeypcitexas.net; becky.allen@pcpmg.net

SNF/NF	BRANDE NBURG NURSIN G AND REHABI LITATION CENTER	814 OLD EKRON RD	BRANDENBUR G	40108	VICKI	TRUMP	(270) 422- 2148	(270) 422- 4791	vicki.trump @pcitexas.n et; becky.allen @pcpmg.net
SNF/NF	CAMPBE LLSVILLE NURSIN G AND REHABI LITATION CENTER	1980 OLD GREENSBUR G ROAD	CAMPBELLSVI LLE	42718	NELDA	BEARD	(270) 465- 3506	(270) 789- 4010	nelda.beard @pcitexas.n et becky.allen @pcpmg.net
SNF/NF	ELIZABE THTOW N NURSIN G AND REHABI LITATION CENTER	1101 WOODLAND DRIVE	ELIZABETHTO WN	42701	KATHY	HOLDERM AN	(270) 765- 6106	(270) 737- 6690	kathy.holder man@pcitex as.net; becky.allen @pcpmg.net
SNF/NF	FORDSVI LLE NURSIN G AND REHABI LITATION CENTER	313 MAIN STREET	FORDSVILLE	42343	WAYNE	KARCZEW SKI	(270) 276- 3603	(270) 276- 3609	Wayne.Karcz ewski@pcp mg.net ; becky.allen @pcpmg.net
SNF/NF	FRANKLI N- SIMPSON N NURSIN G AND REHABI LITATION CENTER	414 ROBEY ST.	FRANKLIN	42135	TRINA	DAVES	(270) 586- 7141	(270) 586- 6686	trina.daves @pcitexas.n et; becky.allen @pcpmg.net
SNF/NF	HARDIN SBURG NURSIN G AND REHABI LITATION CENTER	101 FAIRGROUN DS ROAD	HARDINSBUR G	40143	LAURE N	POWERS	(270) 756- 2159	(502) 756- 6839	lauren.powe rs@pcitexas. net; becky.allen @pcpmg.net
SNF/NF	HENDER SON NURSIN G AND REHABI LITATION CENTER	2500 NORTH ELM ST.	HENDERSON	42420	V. EDWAR D	FOLEY	(270) 826- 9794	(270) 826- 6265	ed.foley@pc pmg.net; becky.allen @pcpmg.net
SNF/NF	MORGA NFIELD NURSIN G & REHABI LITATION CENTER	509 NORTH CARRIER ST.	MORGANFIEL D	42437	MARY	WOOD	(270) 389- 3513	(270) 389- 1757	mary.wood @pcitexas.n et; becky.allen @pcpmg.net
SNF/NF	MCCRAC KEN NURSIN G AND REHABI LITATION CENTER	867 MCGUIRE AVE.	PADUCAH	42001	MARILY N	INGRAM	(270) 442- 6168	(270) 443- 6211	marilyn.ingra m@pcitexas. net; becky.allen @pcpmg.net

	TATION CENTER								
SNF/NF	CHRISTIAN HEIGHTS NURSING AND REHABILITATION CENTER	124 WEST NASHVILLE ST	PEMBROKE	42266	TAMMY	WORKMAN	(270) 475-4227	(270) 475-4173	tammy.workman@pcitexas.net; becky.allen@pcpmg.net
SNF/NF	SPRINGFIELD NURSING & REHABILITATION CENTER	420 EAST GRUNDY AVENUE	SPRINGFIELD	40069	JAMES	HOBBS	(859) 336-7771	(859) 336-9571	james.hobbs@pcitexas.net; becky.allen@pcpmg.net
SNF/NF	EDGEWOOD ESTATES	195 BERRYMAN ROAD	FRENCHBURG	40322	ANNE	WILLS	(606) 768-9001	(606) 768-9005	awills@mrtc.com
SNF/NF	THE GRANDVIEW A NURSING & REHABILITATION FACILITY	640 WATER TOWER BYPASS	CAMPBELLSVILLE	42719	CYNTHIA	O'BANION	(270) 465-4321	(270) 465-3963	cobanion@pmdky.com
SNF/NF	GOLDEN LIVING CENTER - MT HOLLY	446 MT. HOLLY AVE	LOUISVILLE	40206	DANA	BOBLITT	(502) 897-1646	(502) 897-7317	Dana.Boblitt@goldenliving.com; abdoulie.cham@goldenliving.
SNF/NF	MOUNTAIN MANOR OF PAINTSVILLE	1025 EUCLID AVENUE	PAINTSVILLE	41240	EMILY	JONES-GRAY	(606) 789-5808	(606) 789-6412	emilygray@mountainmanorofpaintsville.com
SNF/NF	PRESTONSBURG HEALTH CARE CENTER	147 NORTH HIGHLAND AVENUE	PRESTONSBURG	41653	LYNN	WATTS	(606) 886-2378	(606) 889-9438	admin.preston@shccs.com; jfoster@shccs.com; drock@shccs.com
SNF/NF	SIGNATURE HEALTH CARE OF PIKEVILLE	260 SOUTH MAYO TRAIL	PIKEVILLE	41501	P. SHAW	O'CONNOR	(606) 437-7327	(606) 432-9428	jfoster@shccs.com; drock@shccs.com; ctrent@shccs.com
SNF/NF	SPRING CREEK HEALTH CARE	1401 SOUTH 16TH STREET	MURRAY	42071	SANDRA	DICK	(270) 752-2900	(270) 752-2990	sdick@murrayhospital.org skorr@murrayhospital.org
SNF/NF	NAZARETH HOME	2000 NEWBURG ROAD	LOUISVILLE	40205	MARY	HAYNES	(502) 459-9681	(502) 456-9077	mhaynes@nazhome.org



SNF/NF	DAWSON SPRINGS HEALTH AND REHABILITATION CENTER	213 WATER STREET	DAWSON SPRINGS	42408	MARGARET	CURTIS	(270) 797-2025	(270) 797-5768	mcurtis@concordhealthsystems.com
SNF/NF	TRADEWATER POINTE	100 W. RAMSEY	DAWSON SPRINGS	42408	MARGARET	CURTIS	(270) 797-8132	(270) 797-3428	mcurtis@concordhealthsystems.com
SNF/NF	NHC HEALTH CARE, MADISONVILLE	419 NORTH SEMINARY ST	MADISONVILLE	42431	DANNY	BELCHER	(270) 821-5564	(270) 821-6211	hmiller@nhcmadisonville.com; dbelcher@nhcmadisonville.com
SNF/NF	NIM HENSON GERIATRIC CENTER	420 JETT DRIVE	JACKSON	41339	PHILLIP	LITTERAL	(606) 666-2456	(606) 666-9376	plitteral@setel.com fbach@setel.com
SNF/NF	NORTH HARDIN HEALTH & REHABILITATION CENTER	599 ROGERSVILLE RD.	RADCLIFF	40160	DON	IRWIN	(270) 351-2999		dirwin@elmcroftseniorliving.com
SNF/NF	OAKMONT MANOR	1100 GRANDVIEW DRIVE	FLATWOODS	41139	SHANNA	CARVER	(606) 836-3187	(606) 836-0103	scarver@pmdky.com
SNF/NF	OAKVIEW NURSING & REHABILITATION CENTER	10456 US HWY 62	CALVERT CITY	42029	SARAH	STEWART	(270) 898-6288	(270) 898-0134	admin.oakview@shccs.com; drock@shccs.com; ctrent@shccs.com
SNF/NF	OWENTON CENTER	905 HWY 127 NORTH	OWENTON	40359	THOMAS	RAWLINS	(502) 484-5721	(502) 484-2357	thomas.rawlins@genesis.com
SNF/NF	PARKVIEW NURSING AND REHABILITATION CENTER	200 NURSING HOME LANE	PIKEVILLE	41501	LINDA	DAMRON	(606) 639-4840	(606) 639-2936	admin@parkviewnursingand rehab.com
SNF/NF	PARKWAY MEDICAL CENTER	1155 EASTERN PARKWAY	LOUISVILLE	40217	JOSEPH	OKRUHLICA	(502) 636-5241		Jokruhlica@yahoo.com
SNF/NF	REGIS WOODS	4604 LOWE RD	LOUISVILLE	40220	JOSHUA	SCHINDLER	(502) 451-1401		josh.schindler@sunh.com
SNF/NF	PIONEER TRACE NURSING HOME	115 PIONEER TRACE	FLEMINGSBURG	41041	MICHAEL	COX	(606) 845-2131	(606) 845-1608	michael.cox@pioneertrace.com
SNF/NF	PROFESSIONAL CARE HEALTH	114 MCMURTRY AVE.	HARTFORD	42347	JEFFREY	BAXLEY	(270) 298-7437	(270) 298-9137	pmosley@seniorcare-corp.co; JBaxley@elm

	& REHABILITATION CENTER								croftseniorkiv ing.com
SNF/NF	REGENCY CENTER	1550 RAYDALE DR	LOUISVILLE	40219	DIANE	GARRETT	(502) 968- 6600	(502) 966- 9218	Diane.Garret t@sunh.com
SNF/NF	MADISON HEALTH AND REHABILITATION CENTER	131 MEADOWLARK DRIVE	RICHMOND	40475	TERRY	TACKETT	(859) 623- 3564	(859) 624- 9358	Terry.Tackett @pcitexas.net becky.allen @pcpmg.net
SNF/NF	RIDGEWOOD TERRACE NURSING HOME	425 ISLAND FORD ROAD	MADISONVILLE	42431	DONOVAN	DAME	(270) 825- 0166	(270) 825- 0169	ddame@con cordhealthsys tems.com
SNF/NF	BARKLEY CENTER	4747 ALBEN BARKLEY DRIVE	PADUCAH	42001	CHRISTINA	TYGETT	(270) 444- 9661	(270) 443- 9407	Christina.Tyg ett@Genesis HCC.com
SNF/NF	RIVER VALLEY NURSING HOME	305 TAYLOR STREET #402	BUTLER	41006	KENTH	URLAGE	(859) 472- 2217	(859) 472- 5869	kurlage@kvr vnh.com; mitzi.yelton @kvrvnh.com
SNF/NF	RIVERVIEW HEALTH CARE CENTER	79 SPARROW LANE	PRESTONSBURG	41653	MELISSA	ALLEN	(606) 886- 9178	(606) 886- 0669	admin.rivervi ew@shccs.c om; drock@shccs .com; ctrent@shcc s.co
SNF/NF	ROBERTSON COUNTY HEALTH CARE FACILITY	ROUTE 2, U S HIGHWAY 62	MOUNT OLIVET	41064	STEPHANIE	HOPPER	(606) 724- 5020	(606) 724- 5029	shopper@p mdky.com
SNF/NF	ROCKFORD HEALTH AND REHABILITATION CENTER	4700 QUINN DR.	LOUISVILLE	40216	LISA	GANN	(502) 448- 5850	(502) 448- 9563	ctrent@sign aturehealthc arellc.com; drock@shccs .com
SNF/NF	ROSE MANOR HEALTH CARE	3057 NORTH CLEVELAND ROAD	LEXINGTON	40516	DEBORAH	ADDESSI	(859) 299- 4117	(859) 299- 2836	rosemanor7 @msn.com
SNF/NF	SIGNATURE HEALTH CARE OF BOWLING GREEN	550 HIGH ST.	BOWLING GREEN	42101	STEPHANIE	SEMRICK	(270) 843- 3296	(270) 793- 0218	admin.bowli nggreen@sh cc.com
SNF/NF	DIVERSICARE OF NICHOLASVILLE	100 SPARKS AVENUE	NICHOLASVILLE	40356	SAMUEL	FRAZIER	(859) 885- 4171	(859) 885- 9324	Sam.Frazier @DVCR.com
SNF/NF	SALEM SPRINGLAK E HEALTH	509 NORTH HAYDEN AVE.	SALEM	42078	JOE	GAMBLE	(270) 988- 4572	(270) 988- 4375	74- admin@atriu mlivingcente rs.com

	& REHABILITATION CENTER								
SNF/NF	SANSBURY CARE CENTER	2625 BARDSTOWN ROAD	SAINTCATHARINE	40061	JAMES	MELIA	(859) 336-3974	(859) 336-1068	jmelia@sansburycare.org
SNF/NF	HILLSIDE CENTER	1500 PRIDE AVENUE	MADISONVILLE	42431	CAROL	BRITT	(270) 821-1813	(270) 821-1815	Carol.Britt@sunh.com
SNF/NF	SHADYLAWN NURSING AND REHABILITATION CENTER	2582 CERULEAN RD.	CADIZ	42211	DAWN	TEDDER	(270) 522-3236	(270) 522-0825	dawn.tedder@pcitexas.net becky.allen@pcpmg.net
SNF/NF	GOLDEN LIVING CENTER - ST MATTHEWS	227 BROWNS LANE	LOUISVILLE	40207	KRISTI	NOAH	(502) 893-2595	(502) 895-9397	Kristi.Noah@goldenliving.com
SNF/NF	GOLDEN LIVING CENTER - STANFORD	105 HARMON HEIGHTS	STANFORD	40484	KEVIN	MCCOWAN	(606) 365-2141	(606) 365-9755	kevin.mccowan@goldenliving.com
SNF/NF	STANTON NURSING AND REHABILITATION CENTER	31 DERICKSON LANE	STANTON	40380	JOSEPH	DONCHATZ	(606) 663-2846	(606) 663-8040	joseph.donchatz@pcitexas.net becky.allen@pcpmg.net
SNF/NF	SUMMERFIELD HEALTH AND REHABILITATION CENTER	1877 FARNSELY RD.	LOUISVILLE	40216	KEVIN	FOOTE	(502) 448-8622	(502) 448-4274	kfoote@elmcroftseniorliving.com
SNF/NF	SUMMIT MANOR HEALTH & REHABILITATION CENTER	400 BOMAR HEIGHTS	COLUMBIA	42728	MARCELLA	HODGES	(270) 384-2153	(270) 384-3964	pmsley@seniorcare-corp.
SNF/NF	CUMBERLAND NURSING AND REHABILITATION CENTER	200 NORFLEET DRIVE	SOMERSET	42501	JILL	SPURGEON	(606) 678-5104	(606) 677-1925	becky.allen@pcpmg.net jill.spurgeon@pcitexas.net
SNF/NF	BLUEGRASS CARE & REHABILITATION CENTER	3576 PIMLICO PARKWAY	LEXINGTON	40517	JONI	GOSSER	(859) 272-0608	(859) 272-1273	admin.bluegrass@signaturehealthcarellc.com
SNF/NF	SIGNATURE HEALTH	625 TAYLORSVILLE RD	TAYLORSVILLE	40071	DAVID	BROWN	(502) 477-8838	(502) 477-2273	Admin.spencer@signaturehealthcarellc.com

	CARE OF SPENCER COUNTY								c.com; drock@shccs.com
SNF/NF	HELMWOOD HEALTH CARE CENTER	106 DIECKSDRIVE	ELIZABETHTOWN	42701	MARY SUE	THOMPSON	(270) 737-2738	(270) 737-3096	sthompson@phsk.org; rosalie@phsk.org
SNF/NF	THE HERITAGE	192 BACON CREEK ROAD	CORBIN	40702	CATHY	WILLIS	(606) 526-1900	(606) 526-9892	cwillis@pmdky.com
SNF/NF	THE JAMES B. HAGGIN MEMORIAL HOSPITAL	464 LINDEN AVENUE	HARRODSBURG	40330	VICTORIA	REED	(859) 734-5441	(859) 734-5563	vreed@hagginhosp.org
SNF/NF	BAPTIST HEALTH LA GRANGE	1025 NEW MOODY LANE	LA GRANGE	40031	STEFANIE	ZOELLER	(502) 222-5388	(502) 222-3411	stefanie.zoeller@bhsi.com; lisa.shea@bhsi.com
SNF/NF	KINDRED HOSPITAL - LOUISVILLE	1313 ST. ANTHONY PLACE	LOUISVILLE	40205	MICHAEL	RABUKA	(502) 627-1589		michael.rabuka@kindredhealthcare.com shirley.joseph@..
SNF/NF	BRIGHTON CORNER STONE HEALTH CARE	55 EAST NORTH STREET	MADISONVILLE	42431	VIKI	THOMASSON	(270) 821-1492	(270) 821-6946	viki@kih.net
SNF/NF	WESLEY MANOR	5012 EAST MANSLICK RD	LOUISVILLE	40219	JERRY	HOGANSON	(502) 969-3277	(502) 969-3270	jhoganson@wesman.org
SNF/NF	FOUNTAIN CIRCLE CARE & REHABILITATION CENTER	200 GLENWAY ROAD	WINCHESTER	40391	S'LENA	HUDSON	(859) 744-1800	(859) 744-0285	admin.fountain@shccs.com; drock@shccs.com; ctrent@shccs.com
SNF/NF	SIGNATURE HEALTH CARE OF ELIZABETHTOWN	1117 WOODLAND DRIVE	ELIZABETHTOWN	42701	MATTHEW	BILEWICZ	(270) 769-2363	(270) 769-5207	admin.elizabethtown@shccs.com ctrent@signaturehealthcarellc
SNF/NF	BRIDGE POINT CENTER	7300 WOODSPOINT DRIVE	FLORENCE	41042	AILEEN	JONES	(859) 371-5731	(859) 371-4033	Aileen.Jones@GenesisHC.com
SNF/NF	WURTLAND NURSING AND REHABILITATION CENTER	100 WURTLAND AVENUE	WURTLAND	41144	SARAH	WILLIS	(606) 836-0931	(606) 833-5605	51ADMN@advocat-inc.com

SNF/NF	BARBOURVILLE HEALTH & REHABILITATION CENTER	65 MINTON HICKORY FARM ROAD	BARBOURVILLE	40906	JANNA	PARTIN	(606) 546-5136	(606) 546-5138	japartin@hsimai.com
SNF/NF	DIVERSICARE OF GREENVILLE	521 GREENE DR.	GREENVILLE	42345	STACY	BULLOCK	(270) 338-1523	(270) 338-0248	68admn@dvcr.com
SNF/NF	LAKEWAY NURSING AND REHABILITATION CENTER	2607 MAIN STREET HWY 641 SOUTH	BENTON	42025	SELINA	BECK	(270) 527-3296	(270) 527-9349	lkw74-admin@lakewaycare.com
SNF/NF	MOUNTAIN VIEW NURSING & REHABILITATION CENTER	39 FERNDALE APARTMENTS ROAD	PINEVILLE	40977	KELLY	GOODIN	(606) 337-7071	(606) 337-1364	mtv72-admin@mountainviewnursingcenter.com
SNF/NF	CORBIN HEALTH & REHABILITATION CENTER	270 BACON CREEK ROAD	CORBIN	40702	REBECCA	HILL	(606) 528-8822	(606) 528-8557	cimesser@hsimai.com; rehill@hsimai.com
SNF/NF	FAIR OAKS HEALTH SYSTEMS, LLC	1 SPARKS AVENUE	JAMESTOWN	42629	CHRIS	MINNICH	(270) 343-2101	(270) 343-2080	minnich270@yahoo.com
SNF/NF	HARLAN HEALTH & REHABILITATION CENTER	200 MEDICAL CENTER DRIVE	HARLAN	40831	GAIL	HENSLEY	(606) 573-7250	(606) 573-6734	gahensley@hsimai.com
SNF/NF	HILLCREST HEALTH & REHABILITATION CENTER	1245 AMERICAN GREETING ROAD	CORBIN	40702	GAIL	GIBBS	(606) 528-8917	(606) 528-0070	gagibbs@hsimai.com
SNF/NF	HYDEN HEALTH & REHABILITATION CENTER	21040 US HWY 421 SOUTH	HYDEN	41749	MELISSA	SPARKS	(606) 672-2940	(606) 672-6792	mesparks@hsimai.com
SNF/NF	MASONIC HOME OF SHELBYVILLE	711 FRANKFORT ROAD	SHELBYVILLE	40066	ROBERT	COOPER	(502) 633-3486	(502) 633-0661	ncooper@mhky.com; ppittman@mhky.com
SNF/NF	SPRINGVIEW HEALTH & REHAB	718 GOODWIN LANE	LEITCHFIELD	42754	JESSICA	PORTER	(270) 259-4036	(270) 259-9760	jessica.porter@springviewhealth.com;

	CENTER, INC								
SNF/NF	CARTER NURSING & REHABILITATION CENTER	250 MCDAVID BLVD	GRAYSON	41143	JOE	BRAINARD	(606) 474-7835	(606) 474-8114	37adm@DVCR.com; BWimsatt@DVCR.com
SNF/NF	CUMBERLAND VALLEY MANOR	301 SOUTH MAIN STREET	BURKESVILLE	42717	PAUL	SHEPARD	(270) 864-4315	(270) 864-3721	cvoffice@mchsi.com
SNF/NF	EDGEMONT HEALTH CARE	323 WEBSTER AVENUE	CYNTHIANA	41031	DEBORAH	ZECH	(859) 234-4595	(859) 234-8070	edgemont@setel.com; castella.phillips@yahoo.com
SNF/NF	ELLIOTT NURSING AND REHABILITATION CENTER	RT 32 EAST, HOWARD CREEK RD	SANDY HOOK	41171	ADAM	RUCKER	(606) 738-9400	(606) 738-9410	39Adm@dvcr.com
SNF/NF	GLASGOW STATE NURSING FACILITY	207 STATE AVENUE	GLASGOW	42141	AMANDA	ALLEN	(270) 651-2151	(270) 651-9897	Amanda.Allen@ky.gov
SNF/NF	CHRISTIAN CARE CENTER OF KUTTAWA, LLC	1253 LAKE BARKLEY DRIVE	KUTTAWA	42055	CYNTHIA	BRUTON	(270) 388-2291	(270) 388-0948	administrator@cccokuttawa.com
SNF/NF	JACKSON MANOR HEALTH & REHABILITATION CENTER	96 HIGHWAY 3444, P O BOX 194	ANNVILLE	40402	PHILIP	GILKISON	(606) 364-5197	(606) 364-2293	pgilkison@jacksonmanorhealthcare.com; pmosley@seniorcare-cor
SNF/NF	LETCHER MANOR	73 PIEDMONT DRIVE	WHITESBURG	41858	CARLA	BISHNOI	(606) 633-1434	(606) 633-3450	cbishnoi@pmdky.com
SNF/NF	LIBERTY CARE AND REHABILITATION CENTER	616 S WALLACE WILKINSON BLVD	LIBERTY	42539	WILLIAM TODD	BRYANT	(606) 787-6889	(606) 787-6891	drock@shccs.com; ctrent@shccs.com; ciliff@shccs.com
SNF/NF	MARTIN COUNTY HEALTH CARE FACILITY	62 MAUDE ROAD	INEZ	41224	BETH	ARNETT	(606) 298-0091	(606) 298-3084	Barnett@pmdky.com
SNF/NF	MIDDLESBORO HEALTH CARE FACILITY	235 NEW WILSON LANE	MIDDLESBORO	40965	ALICE	MADDOX	(606) 248-0925	(606) 242-2544	a_maddox@pmdky.com
SNF/NF	MONROE HEALTH	706 N MAGNOLIA STREET	TOMPKINSVILLE	42167	TAMMY	PULLEY	(270) 487-6135	(270) 487-8604	tpulley@elmcroftseniorliving.com;

	AND REHABILITATION CENTER								pmosley@elmicroft.com
SNF/NF	MOUNTAIN VIEW HEALTH CARE CENTER	945 WEST RUSSELL STREET	ELKHORN CITY	41522	JAMES	SNYDOR	(606) 754-4134	(606) 754-5704	cynthia.simpson@lcca.com
SNF/NF	NHC HEALTH CARE, GLASGOW	109 HOMEWOOD BLVD.	GLASGOW	42141	JIM	FINLEY	(270) 651-6126	(270) 651-7171	jfinley@glasgow-ky.com
SNF/NF	OWSLEY COUNTY HEALTH CARE CENTER, INC	HIGHWAY 11	BOONEVILLE	41314	WHITNEY	YOUNTS	(606) 593-6302	(606) 593-6078	wyounts@prtcnet.org; ochcc@prtcnet.org
SNF/NF	GOOD SHEPHERD COMMUNITY NURSING CENTER	60 PHILLIPS BRANCH ROAD	PHELPS	41553	PRISCILLA	HAGER	(606) 456-8725	(606) 456-4011	phager@phsk.org; ehatfield@phsk.org; rosalie@phsk.org
SNF/NF	SALYERSVILLE NURSING AND REHABILITATION CENTER	571 PARKWAY DRIVE	SALYERSVILLE	41465	ELAINE	JONES	(606) 349-6181	(606) 349-5962	Elaine.jones@pcitexas.net; becky.allen@pcpmg.net
SNF/NF	SOUTH SHORE NURSING & REHABILITATION CENTER	JAMES E. HANNAH DRIVE	SOUTH SHORE	41175	ELIZABETH	TOWNSEND	(606) 932-3127	(606) 932-4663	50admn@dvcr.com
SNF/NF	GOLDEN LIVING CENTER - VANCEBURG	58 EASTHAM STREET	VANCEBURG	41179	JOY	DINGESS	(606) 796-3046	(606) 796-2522	joy.dingess@goldenliving.com; legaldept@goldenliving.com
SNF/NF	WEST LIBERTY NURSING & REHABILITATION CENTER	774 LIBERTY ROAD	WEST LIBERTY	41472	STACEY	JOHNSON	(606) 743-3846	(606) 743-2540	38ADMN@advocat-inc.com; BWimsatt@DVCR.com
SNF/NF	WESTERN STATE NURSING FACILITY	2400 RUSSELLVILLE ROAD	HOPKINSVILLE	42240	BRIDGETTE	WELLS	(270) 889-6025	(270) 886-7910	bridgette.wells@ky.gov
SNF/NF	WILLIAMSBURG HEALTH AND	287 N ELEVENTH ST	WILLIAMSBURG	40769	MICHELLE	JARBOE	(606) 549-4321	(606) 549-4324	mijarboe@hsimai.com

	REHABILITATION CENTER								
SNF/NF	WOLFE COUNTY HEALTH & REHABILITATION CENTER	850 HWY 191	CAMPTON	41301	AMELIA	PRATER	(606) 668-3216	(606) 668-3220	amprater@hsimai.com
SNF/NF	WOODLAND AND OAKS	1820 OAKVIEW ROAD	ASHLAND	41101	KIMBERLY	NALL	(606) 325-5200	(606) 329-9143	knall@pmdky.com
SNF/NF	CREEKWOOD PLACE NURSING & REHAB CENTER, INC	107 BOYLES DRIVE	RUSSELLVILLE	42276	JENNIFER	SOLDEVIL LA	(270) 726-9049	(270) 726-8706	jennifer.soldevilla@creekwoodplacenursing.com
SNF/NF	ROCKCASTLE REGIONAL HOSPITAL AND RESPIRATORY CARE	145 NEWCOMB AVENUE	MOUNT VERNON	40456	STEVE	ESTES	(606) 256-2195	(606) 256-8815	m.brock@rhrrcc.org
SNF/NF	CHRISTIAN CARE CENTER OF LANCASTER	308 WEST MAPLE AVENUE	LANCASTER	40444	TEVIS	TUGGLE	(859) 792-6844	(859) 792-6844	administrator@cccflancaster.com; lgray@carecenters.net
SNF/NF	CARMEL MANOR	100 CARMEL MANOR ROAD	FORT THOMAS	41075	DIANE	MACK	(859) 781-5111	(859) 781-2337	srdiane@fuse.net; carmelmanor@fuse.net
SNF/NF	GRAYSON MANOR NURSING HOME	505 WILLIAM THOMASON BYWAY	LEITCHFIELD	42754	JOSEPH	VANCE	(270) 259-4028	(270) 259-9789	joeyvance@graysonmanor.org
SNF/NF	IRVINE NURSING AND REHABILITATION CENTER	411 BERTHA WALLACE DRIVE	IRVINE	40336	LISA	JOHNSON	(606) 723-5153	(606) 726-9566	lisa.johnson@pcitexas.net; becky.allen@pcpmg.net
SNF/NF	RIVER'S BEND RETIREMENT COMMUNITY	300 BEECH ST.	KUTTAWA	42055	JUSTIN	LADD	(270) 388-2868	(270) 388-7865	justin.ladd@eidetik.com
SNF/NF	MUHLENBERG COMMUNITY HOSPITAL	440 HOPKINSVILLE ST.	GREENVILLE	42345	BECKY	JAGGERS	(270) 338-8431	(270) 338-8466	b.jaggers@mchky.org



SNF/NF	PROVIDE NCE PINE MEADO WS	1608 HILL RISE DRIVE	LEXINGTON	40504	MARK	MILLET	(859) 254- 2402	(859) 254- 2381	Mark.Millet @pinemea dowshcc.com
SNF/NF	RIDGEW AY NURSIN G & REHABI LITATION FACILITY	406 WYOMING ROAD	OWINGSVILLE	40360	SALLY	BAXTER	(606) 674- 6613	(606) 674- 9418	sbaxter@pm dky.com
SNF/NF	KENSING TON CENTER	225 SAINT JOHN ROAD	ELIZABETHTO WN	42701	VICKI	STEEGE	(270) 769- 3314	(270) 769- 3314	Vicki.Bradley @GenesisHC C.com
SNF/NF	PROVIDE NCE RICHWO OD	1012 RICHWOOD WAY	LA GRANGE	40031	STOCK	LONGHUR ST	(502) 222- 3186	(502) 222- 7186	administrato r@therichwo od.com;
SNF/NF	WOODC REST NURSIN G & REHABI LITATION CENTER	3876 TURKEYFOO T ROAD	ELSMERE	41018	FRANK LIN	NATHAN	(859) 342- 8775	(859) 342- 8701	franklin.nath an@pcitexas .net; becky.allen @pcpmg.net
SNF/NF	JOSEPH EDDIE BALLARD WESTER N KENTUC KY VETERA NS CEN	926 VETERANS DRIVE	HANSON	42413	LADON NA	SCOTT	(270) 322- 9087		ladonna.scot t@ky.gov; lena.givens @ky.gov
SNF/NF	COLDSP RING TRANSITI ONAL CARE CENTER	300 PLAZA DRIVE	COLD SPRING	41076	AMAN DA	JACKSON	(859) 441- 4600		amandaj@ca respring.com
SNF/NF	GREEN MEADO WS HEALTH CARE CENTER 1	310 BOXWOOD RUN ROAD	MOUNT WASHINGTON	40047	BEN	BAYS	(502) 955- 7600	(502) 955- 7995	ben@green meadowshe althcare.com
SNF/NF	CLINTON PLACE	106 PADGETT DRIVE	CLINTON	42031	TRELLA	WILSON	(270) 653- 5558	(270) 653- 5522	58admn@ad vocat- inc.com
SNF/NF	CHRISTI AN HEALTH CENTER - WEST, INC	1015 MAGAZINE STREET	LOUISVILLE	40203	JAMES	WESP	(502) 815- 6460	(502) 815- 6489	jim.wesp@cc c1884.org
SNF/NF	PAUL E PATTON EASTERN KY VETERA NS CENTER	200 VETERANS DRIVE	HAZARD	41701	NEIL	NAPIER	(606) 435- 6196	(606) 435- 6201	neil.napier@ ky.gov

SNF/NF	THOMS ON- HOOD VETERA NS CENTER	100 VETERANS DRIVE	WILMORE	40390	BENJA MIN	SWEGER	(859) 858- 2814	(859) 858- 4039	Ben.Sweger @ky.gov; PatriciaA.An derson@ky.g ov
SNF/NF	EASTERN STATE HOSPITA L LONG TERM- ACQUIRE D BRAIN	1350 BULL LEA ROAD	LEXINGTON	40511	REBECC A	HALL	(859) 246- 8000		Rebecca.Hall @ESH.UKHC. org

APPENDIX B

QUESTIONNAIRE VERSION 1 (PILOT)  
ANNOUNCEMENT EMAIL and CONSENT  
RECRUITMENT EMAIL  
REMINDER EMAIL

Dear Sir/Madam,

You have been contacted because you were identified as a contact person for your nursing home/long-term care facility.

If there is a better person for me to contact, please forward this email to them and/or let me know.

The study:

In the next email, you will be asked to provide data on ergonomics in your facility, via SurveyMonkey.com.

The purpose is to learn about ergonomics programs and injuries among direct care staff due to patient moving and handling.

The research study will be conducted by David Stumbo, a doctoral student of Eastern Kentucky University.

Attached to this email is information regarding your informed consent. Please review it.

I ask that you will help me in this study by answering the survey questions.

Please don't hesitate to contact me if you need additional information.

Thank you,

David Stumbo, OSHT  
Eastern Kentucky University

\*\*\*\*\*

## Informed Consent for Study

Dear Sir/Madame,

I am pleased to invite you to participate in a research study which explores nursing homes' ergonomics programs and injuries experienced by direct care staff in these facilities.

### **Why am I being asked to participate in this research?**

You are being invited to participate because you are able to provide information about your employer's ergonomics program and injuries among direct care workers at your facility. If you take part in this study, you will be one of about 300 other nursing home facilities in Kentucky to do so.

### **How do I sign up?**

To accept your invitation to participate in this study, you must follow the attached hyperlink to the questionnaire. If you would like to decline, you need only close the

### **Who is doing the study?**

The person in charge of this study is David Stumbo at Eastern Kentucky University. He is being guided in this study by Dr. Charles Hausman [Advisor].

### **What is the purpose of the study?**

By doing this study, we hope to explore and understand three main issues: the ergonomics programs used by nursing homes, the work-related injuries experienced by direct care staff due to patient care tasks, and the interrelationships between the ergonomics programs and injuries.

### **Where is the study going to take place and how long will it last?**

The research procedures will be conducted at your facility, at your computer. You will be asked to complete a questionnaire on the Survey Monkey website. Completion of the questionnaire will take about 1 hour. The study will last approximately 2 months (February to April, 2016).

### **What will I be asked to do?**

You will be asked to complete a questionnaire on the Survey Monkey website. To provide the requested data, you may need to refer to your facility's ergonomics program

and your facility's OSHA 300 injury and illness log for 2015. You may also need to your facility's OSHA 301 forms as well.

**What is involved in participation in this study?**

By agreeing to participate in this study, you are agreeing provide data regarding worker injuries which have occurred due to patient handling work tasks and the ergonomics program at place in your facility. You will be asked to provide this data through the questionnaire.

**Will anyone know that I participated in this study?**

Your privacy and anonymity is of the utmost importance in this research. Neither your employer, nor your coworkers will be notified of your decision to participate or not without your permission. Your name will not be used at any point in study. Also, your employer's name will not be used. Rather, all such identifiers will be coded with to provide anonymity.

**Who will see the information I provide?**

The data collected will only be made available to the primary investigator, David Stumbo, and members of his advisory committee.

**Do I have to participate in this study?**

Participation in this research is absolutely voluntary. If you choose not to participate there will be no negative consequences. Your decision will not be shared with your employer or coworkers without your permission.

**Are there reasons why I should not take part in this study?**

There are no particular reasons to not participate in the study.

**What are the possible risks and discomforts?**

To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life.

**Will I benefit from taking part in this study?**

You will not get any personal benefit from taking part in this study.

**Do I have to take part in this study?**

If you decide to take part in the study, it should be because you simply want to volunteer to help the study. You will not lose any benefits or rights you would normally have if you

choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering.

**If I don't take part in this study, are there other choices?**

If you do not want to be in the study, there are no other choices except to not take part in the study.

**What will it cost me to participate?**

There are no costs associated with taking part in this study.

**Will I receive any payment or rewards for taking part in the study?**

You will not receive any payment or reward for taking part in this study.

**Who will see the information I give?**

Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about this combined information. You will not be identified in these written materials.

This study is anonymous. That means that no one, not even members of the research team, will know that the information you give came from you. However, there are some circumstances in which we may have to show your information to other people. For example, the law may require us to show your information to a court. Also, we may be required to show information that identifies you to people who need to be sure we have done the research correctly; these would be people from such organizations as Eastern Kentucky University.

**Can my taking part in the study end early?**

If you decide to take part in the study, you still have the right to decide at any time that you no longer want to participate. You will not be treated differently if you decide to stop taking part in the study.

**What happens if I get hurt or sick during the study?**

If you believe you are hurt or if you get sick because of something that is done during the study, you should call David Stumbo, at 502- xxx-xxxx, immediately. It is important for you to understand that Eastern Kentucky University will not pay for the cost of any care or treatment that might be necessary because you get hurt or sick while taking part in this study. That cost will be your responsibility. Also, Eastern Kentucky University will not pay for any wages you may lose if you are harmed by this study.

**What if I have questions?**

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, David Stumbo, at 502-xxx-xxxx. If you have any questions about your rights as a research volunteer, contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636. We will give you a copy of this consent form to take with you.

Thank you so much for taking the time to consider being a part of this project! It promises to be a fantastic experience for everyone involved and your participation will be GREATLY appreciated.

Sincerely,

David Stumbo



Study: Nursing homes' ergonomics programs

We're conducting a survey and your input would be appreciated. Click the button below to start the survey. Thank you for your participation!

[Begin Survey](#)

Please do not forward this email as its survey link is unique to you.

[Unsubscribe](#) from this list

Powered by



Study: Nursing homes' ergonomics programs

We recently contacted you about a survey, but haven't received your responses.

We'd really appreciate your participation.

Click the button below to start or continue the survey. Thank you for your time.

[Begin Survey](#)

Please do not forward this email as its survey link is unique to you.

[Unsubscribe](#) from this list

Powered by



**Study: Nursing homes' ergonomics programs**

**Part 1: Ergonomics program**

**Directions:**

**Answer each of the questions as accurately as possible.**

**Note: Please do not give answers that make your nursing home and/or ergonomics program appear better (or worse) than it may be, which could distort the findings of the study.**

**Select the response that best describes your nursing home for each question.**

1. Does your facility have an ergonomics program for nurses, nurse aides, and orderlies?

- Yes
- No
- I don't know

2. Management at my facility has developed plans for addressing ergonomics issues among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

3. Management at my facility has communicated its plans for addressing ergonomics to staff.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

**Study: Nursing homes' ergonomics programs**

**Part 1: Ergonomics program**

**Directions:**

**Answer each of the questions as accurately as possible.**

**Note: Please do not give answers that make your nursing home and/or ergonomics program appear better (or worse) than it may be, which could distort the findings of the study.**

**Select the response that best describes your nursing home for each question.**

1. Does your facility have an ergonomics program for nurses, nurse aides, and orderlies?

- Yes
- No
- I don't know

2. Management at my facility has developed plans for addressing ergonomics issues among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

3. Management at my facility has communicated its plans for addressing ergonomics to staff.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

4. Management at my facility has designated at least one staff member to be responsible for carrying out its plans for addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

5. Management at my facility has ensured that the person(s) who is responsible for carrying out plans for addressing ergonomics is held accountable for doing so.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

6. Management at my facility has provided the necessary resources to achieve its plans for addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

7. Employees at my facility help to identify or characterize ergonomics hazards in our workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

8. Employees at my facility help to suggest ways that ergonomics hazards might be controlled or prevented.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

9. Employees at my facility can participate in committees or work groups which are responsible for addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

10. Procedures are in place at my facility that allow employees who are not part of an ergonomics committee or work group to report actual or potential ergonomics problems.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

11. Efforts are made at my facility to gain employee input regarding ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

12. My employer interviews staff members to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

13. My employer uses observations of workplace conditions to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

14. My employer uses OSHA injury and illness records (such as the OSHA form 300) to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

15. My employer uses employee surveys to identify ergonomics problems in my workplace

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

16. My employer uses investigative reports, such as accident reports and near-miss reports to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

17. My facility uses protocols for resident moving/lifting which take into account resident conditions, such as level of ambulation, size and weight, willingness to cooperate, and existing medical conditions.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

18. My facility provides ergonomic equipment for moving/lifting patients.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

19. My facility utilizes a no-lift policy, which prohibits the manual lifting of patients by staff.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree



20. My facility ensures that patient handling/moving equipment is well-maintained and in good working condition.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

21. My facility ensures that patient handling/moving equipment is located so that it is readily available for use.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

22. My employer provides training to staff which addresses ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

23. My employer provides ergonomics training to staff before they start work which requires that they lift or move patients.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

24. My employer's ergonomics training is provided to supervisory-level staff members.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

25. My employer provides training to direct care staff which includes information on how to recognize if they have ergonomics-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

26. My employer provides refresher training for ergonomics on a regular basis, such as quarterly or annually.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

27. My employer has procedures in place for employees to report work-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

28. My employer has procedures in place to allow for the early diagnosis and treatment of employees' ergonomics-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

29. My employer has in place an alternative duty program, which provides light duty, job rotation, or similar methods to help injured employees heal before returning to full duty.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

30. My employer gives the healthcare providers who treat injured employees the opportunity to become familiar with employees' job tasks.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

31. My employer has in place policies which prevent employees from being disciplined or fired for reporting work-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

32. My employer conducts periodic evaluations of the effectiveness of its efforts at addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

33. My employer's evaluations of its efforts at addressing ergonomics include: changes in the incidence rate of ergonomics injuries among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

34. My employer's evaluations of its efforts at addressing ergonomics include: changes in the severity of ergonomics injuries among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

35. My employer's evaluations of its efforts at addressing ergonomics include: changes in the rate of job turnover among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

36. After the implementation new patient handling equipment, my employer evaluates the equipment to determine if it is safer ergonomically for employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

**Study: Nursing homes' ergonomics programs**

**Page 2: Musculoskeletal disorders**

**Directions:**

Provide incident data from the 2014-year *OSHA 300 Log of Work-Related Injuries and Illnesses* for your workplace.

**Notes:**

1. *Musculoskeletal disorders* are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs.
2. It may also be helpful to refer to the 2014-year *OSHA 301 Injury and Illness Incident Reports* as well.
3. Examples of the forms are found below.

37. How many instances of musculoskeletal disorders incidents occurred for direct care employees due to patient moving and handling work, in 2014? These musculoskeletal disorders incidents should be recorded under (M)(1) or (M)(6) of the *OSHA 300 Log*.

OSHA 300 Log - Example

OSHA's Form 300 (Rev. 01/2010)

**Log of Work-Related Injuries and Illnesses**

**Attention:** This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health programs.

Year 2014

U.S. Department of Labor  
Occupational Safety and Health Administration

Employer: Alma Newman Home Care, LLC  
DOL ID: 1585

Identify the event				Describe the case		CLASSIFY THE CASE CHECK ONLY ONE box for each case						Enter the number of days the injured or ill worker was away from work		Check the "injury" column or illness and type of loss as appropriate						
Date	Employee's name	Job title (e.g., Millie)	Date of injury or onset of illness	Where the event occurred (e.g., Loading dock west end)	Describe injury or illness, part of body affected, and object/instrument that directly led to or made person ill (e.g., Small object from 40' propane tank impaled hand)	Result of work activity	Day work	Shift	Other work	Days away from work	Job transfer or restriction	(1)	(2)	(3)	(4)	(5)	(6)	(7)		
1	Shelly Smith	Admin	2/6	wood #1	needle puncture - hand back	Hand				1.5										
2	Joe Sosa	CIA	5/14	wood #1	handily res. dent - spine	Hand				2										
3	Shirley Brea	CIA	7/1	wood #3	slipped - fell - elbow swollen	Hand				4										
4	Michael Lewis	Firearm	7/3	RDVE	tripping - caught thumb / wrist	Hand				6										
5	Tallice Price	Cardiok	10/1	wood #1	knives res. dent - lower back	Hand				3										
6	Belmonte	CIA	12/17	wood #2	handily res. dent - wrist	Hand				13										
						Pages Total				4										
<small>This reporting burden for the collection of information is estimated to average 15 minutes per response, including reviewing instructions, searching existing data sources, gathering and maintaining the data needed, reviewing and collecting the data, and reviewing and approving the collection of information. Send comments on this burden estimate and any other aspect of this collection of information, including suggestions for reducing the burden, to Washington, DC 20503. Send all responses to the Office of Management and Budget, Paperwork Project (0704-0188).</small>											<small>Do not check this box unless you are filing page Form 300A with this page.</small>									

OSHA's Form 301  
**Injury and Illness Incident Report**

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.



This Injury and Illness Incident Report is one of the four forms you must fill out when a reportable work-related injury or illness has occurred. Together with the Log of Work-Related Injuries and Illnesses and the accompanying Summary, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a reportable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-496 and 29 CFR 1904, OSHA's record-keeping rule, you must keep this form on file for 3 years following the year in which it occurs.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by J. Smith  
 Title HR Mgr  
 Name Smith, John on 12/12

Information about the employee

- 1) Full name Sally Smith
- 2) Home 123 Westside Ave  
or Nelson NY NASH
- 3) Sex of case M F
- 4) Date hired 3.15.11
- 5)  New  Former

Information about the physician or other health care professional

- 6) Name of physician or other health care professional Dr. Koh
- 7)  Not named as physician from the medical release or hospital report Intermediate Care Facility
- 8) Name Dr. Koh  
or Nurse/Physician on 12/12/11
- 9) Was employee treated in an ambulatory hospital clinic etc.
- 10) Was employee hospitalized overnight in a hospital etc.

Information about the case

- 11) Case number from the log 1 (mark if you are reporting the log after you are due to do so)
- 12) Date of injury or illness 2/16/12
- 13) Year employee began work 2008 2011 2014
- 14) Type of case 9100 9110  Check other number if described
- 15) What was the employee doing just before the incident occurred? Describe the activity, as well as the work, equipment, or material the employee was using. Be specific. Example: "Cleaning a ladder while carrying painting materials." "Spraying chemical from hand sprayer." "Lifting computer keyboard."  
Preparing resident to do move.
- 16) What happened? Tell us how the injury occurred. Example: "When ladder slipped on wet floor, worker fell 10 feet." "Worker was sprayed with chemical when gutter broke during replacement." "Worker slipped down stairs in wet area clean."  
Was moving resident & lost grip. Res. was shifted & fell past. Strain back & shoulder.
- 17) What was the nature or severity of the injury or illness? Describe the condition and how it was affected by any specific task, tool, or material. Example: "Ankle sprain," "Shoulder strain," "Carpal tunnel syndrome."
- 18) What action or substance directly harmed the employee? Example: "Wet floor," "Inhalation of dust," "Fall from roof." If this applies, describe the incident, tool, or task.
- 19) If the employee died, where did the incident occur? \_\_\_\_\_

Additional reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing the burden, to Washington, DC 20503. It may not apply to this collection of information.



**Study: Nursing homes' ergonomics programs**

**Part 3: Direct care staff**

**Directions:**

**Please provide information on your direct care staff (nurses, nurse aides/CNA, orderlies) for our study.**

**Often, a human resources manager or safety manager will have this information.**

38. How many full-time, direct care employees (nurses, nurse aids/CNAs, orderlies) worked in your establishment, in 2014?

39. How many hours did full-time direct care employees work at your facility, in 2014? (Include over-time, seasonal, temporary, and part-time work.)

APPENDIX C  
QUESTIONNAIRE VERSION 2  
RECRUITMENT / CONSENT EMAIL  
REMINDER EMAIL SCRIPT

**Study: Nursing homes' ergonomics programs**

**Part 1: OSHA 300 information**

**Directions:**

**Provide incident data from the 2014-year OSHA 300 Log of Work-Related Injuries and Illnesses for your workplace.**

**Often, a human resources manager or safety manager will have this information.**

**Notes:**

**1. Musculoskeletal disorders are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs.**

**2. It may also be helpful to refer to the 2014-year OSHA 301 Injury and Illness Incident Reports as well.**

**3. Examples of the forms are found below.**

1. How many instances of musculoskeletal disorders incidents occurred for direct care employees due to patient moving and handling work, in 2014? These musculoskeletal disorders incidents should be recorded under (M)(1) or (M)(6) of the OSHA 300 Log.



OSHA's Form 301  
Injury and Illness Incident Report

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.



This Injury and Illness Incident Report is one of the five forms you must fill out when a work-related injury or illness has occurred. Together with the Log of Work-Related Injuries and Illnesses and the accompanying Summary, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, however, or other reports may be acceptable alternatives. To be considered an equivalent form, any substitute report must contain all the information listed for this form.

According to Public Law 91-353 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 3 years following the date to which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by: Bob Smith  
Title: HR Dept.  
Phone: 878-223-2345 Date: 12/1/98

Information about the employee

- 1) Full name: Bob Smith
- 2) Home: 123 Webster Ave.  
City: Nelson State: NY Zip: 10001
- 3) How did you learn of the incident?  
 Direct  
 Indirect  
 Other

Information about the physician or other health care professional

- 4) Name of physician or other health care professional: Dr. Kos
- 5) If treatment is given away from the workplace, where was it given?  
 Facility: Immediate Care Facility  
 Street: 115 2nd St.  
 City: Brooklyn State: NY Zip: 11201
- 6) Was employee treated in a hospital?  
 Yes  
 No
- 7) Was employee hospitalized or operated on in a hospital?  
 Yes  
 No

Information about the case

- 8) Case number from Log: 1
- 9) Date of injury or illness: 2/6/98
- 10) Year employee began work: 1990 OSHA
- 11) Year of event: 1998 OSHA  Check if this event is recurrent
- 12) What was the employee doing just before the incident occurred? Describe the activity as well as the tools, equipment, or material the employee was using. Example: "Cleaning a ladder while working on roof." "Operating a lathe when hand caught." "Using a power lawnmower."  
Preparing resident to move.

13) What happened? Did you have the injury described? Example: "A box fell off my back, bruising my back." "Machine was stopped with clothes on it when back broke during adjustment." "Machine developed problem in motor area."  
Was moving resident & lost grip. Box hit shins & felt pain.

14) What was the injury or illness? Did you have the injury or illness described? Example: "Sprained back." "Strained back, hand." "Carpal tunnel syndrome."  
Strain back & shoulder.

15) What effect or substance directly caused the employee's injury or illness? Example: "Lifting box." "Slipping." "Falling from roof."  
"What was seen" if this question does not apply to the incident listed in 12.

16) If the employee died, when did death occur? Date of death: \_\_\_\_\_

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, to Washington, DC 20503-2941 and to the Office of Management and Budget, Paperwork Project (0704-0188).

**Study: Nursing homes' ergonomics programs**

**Part 2: Direct care staff**

**Directions:**

**Please provide information on your direct care staff (nurses, nurse aides/CNA, orderlies) for our study.**

**Often, a human resources manager or safety manager will have this information.**

2. How many full-time, direct care employees (nurses, nurse aids/CNAs, orderlies) worked in your establishment, in 2014?

3. How many hours did full-time direct care employees work at your facility, in 2014? (Include over-time, seasonal, temporary, and part-time work.)

**Study: Nursing homes' ergonomics programs**

**Part 3: Ergonomics program**

**Directions:**

**Answer each of the questions as accurately as possible.**

**Often, a human resources manager or safety manager will have this information.**

**Note: Please do not give answers that make your nursing home and/or ergonomics program appear better (or worse) than it may be, which could distort the findings of the study.**

**Select the response that best describes your nursing home for each question.**

4. Does your facility have an ergonomics program for nurses, nurse aides, and orderlies?

- Yes
- No
- I don't know

5. Management at my facility has developed plans for addressing ergonomics issues among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

6. Management at my facility has communicated its plans for addressing ergonomics to staff.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

7. Management at my facility has designated at least one staff member to be responsible for carrying out its plans for addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

8. Management at my facility has ensured that the person(s) who is responsible for carrying out plans for addressing ergonomics is held accountable for doing so.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

9. Management at my facility has provided the necessary resources to achieve its plans for addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

10. Employees at my facility help to identify or characterize ergonomics hazards in our workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree



11. Employees at my facility help to suggest ways that ergonomics hazards might be controlled or prevented.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

12. Employees at my facility can participate in committees or work groups which are responsible for addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

13. Procedures are in place at my facility that allow employees who are not part of an ergonomics committee or work group to report actual or potential ergonomics problems.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

14. Efforts are made at my facility to gain employee input regarding ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

15. My employer interviews staff members to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

16. My employer uses observations of workplace conditions to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

17. My employer uses OSHA injury and illness records (such as the OSHA form 300) to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

18. My employer uses employee surveys to identify ergonomics problems in my workplace

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

19. My employer uses investigative reports, such as accident reports and near-miss reports to identify ergonomics problems in my workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

20. My facility uses protocols for resident moving/lifting which take into account resident conditions, such as level of ambulation, size and weight, willingness to cooperate, and existing medical conditions.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

21. My facility provides ergonomic equipment for moving/lifting patients.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

22. My facility utilizes a no-lift policy, which prohibits the manual lifting of patients by staff.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

23. My facility ensures that patient handling/moving equipment is well-maintained and in good working condition.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

24. My facility ensures that patient handling/moving equipment is located so that it is readily available for use.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

25. My employer provides training to staff which addresses ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

26. My employer provides ergonomics training to staff before they start work which requires that they lift or move patients.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

27. My employer's ergonomics training is provided to supervisory-level staff members.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

28. My employer provides training to direct care staff which includes information on how to recognize if they have ergonomics-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

29. My employer provides refresher training for ergonomics on a regular basis, such as quarterly or annually.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

30. My employer has procedures in place for employees to report work-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

31. My employer has procedures in place to allow for the early diagnosis and treatment of employees' ergonomics-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

32. My employer has in place an alternative duty program, which provides light duty, job rotation, or similar methods to help injured employees heal before returning to full duty.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

33. My employer gives the healthcare providers who treat injured employees the opportunity to become familiar with employees' job tasks.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

34. My employer has in place policies which prevent employees from being disciplined or fired for reporting work-related injuries.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

35. My employer conducts periodic evaluations of the effectiveness of its efforts at addressing ergonomics.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

36. My employer's evaluations of its efforts at addressing ergonomics include: changes in the incidence rate of ergonomics injuries among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

37. My employer's evaluations of its efforts at addressing ergonomics include: changes in the severity of ergonomics injuries among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

38. My employer's evaluations of its efforts at addressing ergonomics include: changes in the rate of job turnover among employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

39. After the implementation new patient handling equipment, my employer evaluates the equipment to determine if it is safer ergonomically for employees.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree



Study of  
LTC/Nursing  
Home Ergonomics  
Program

Dear Sir/Madam,

You have been contacted because you were identified as a contact person for your nursing home/long-term care facility.

**If there is a better person for me to contact, \*please\* forward this email to them.**

Thank you,  
David Stumbo, OSH  
Eastern Kentucky University  
david.stumbo@eku.edu

\*\*\*\*

Informed consent for study:  
Dear Sir/Madame,

I am pleased to invite you to participate in a research study which explores nursing homes' ergonomics programs and injuries experienced by direct care staff in these facilities.

Why am I being asked to participate in this research?

You are being invited to participate because you are able to provide information about your employer's ergonomics program and injuries among direct care workers at your facility. If you take part in this study, you will be one of about 300 other nursing home facilities in Kentucky to do so.

How do I sign up?

To accept your invitation to participate in this study, you must follow the attached hyperlink to the questionnaire. If you would like to decline, you need only close the

Who is doing the study?

The person in charge of this study is David Stumbo at Eastern Kentucky University. He is being guided in this study by Dr. Charles Hausman [Advisor].

What is the purpose of the study?

By doing this study, we hope to explore and understand three main issues: the ergonomics programs used by nursing homes, the work-related injuries experienced by direct care staff due to patient care tasks, and the interrelationships between the ergonomics programs and injuries.

Where is the study going to take place and how long will it last?

The research procedures will be conducted at your facility, at your computer. You will be asked to complete a questionnaire on the Survey Monkey website. Completion of the questionnaire will take about 1 hour. The study will last approximately 2 months (February to April, 2016).

What will I be asked to do?

You will be asked to complete a questionnaire on the Survey Monkey website. To provide the requested data, you may need to refer to your facility's ergonomics program and your facility's OSHA 300 injury and illness log for 2014. You may also need to your facility's OSHA 301 forms as well.

What is involved in participation in this study?

By agreeing to participate in this study, you are agreeing provide data regarding worker injuries which have occurred due to patient handling work tasks and the ergonomics program at place in your facility. You will be asked to provide this data through the questionnaire.

Will anyone know that I participated in this study?

Your privacy and anonymity is of the utmost importance in this research. Neither your employer, nor your coworkers will be notified of your decision to participate or not without your permission. Your name will not be used at any point in study. Also,

your employer's name will not be used. Rather, all such identifiers will be coded with to provide anonymity.

Who will see the information I provide?

The data collected will only be made available to the primary investigator, David Stumbo, and members of his advisory committee.

Do I have to participate in this study?

Participation in this research is absolutely voluntary. If you choose not to participate there will be no negative consequences. Your decision will not be shared with your employer or coworkers without your permission.

Are there reasons why I should not take part in this study?

There are no particular reasons to not participate in the study.

What are the possible risks and discomforts?

To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life.

Will I benefit from taking part in this study?

You will not get any personal benefit from taking part in this study.

Do I have to take part in this study?

If you decide to take part in the study, it should be because you simply want to volunteer to help the study. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering.

If I don't take part in this study, are there other choices?

If you do not want to be in the study, there are no other choices except to not take part in the study.

What will it cost me to participate?

There are no costs associated with taking part in this study.

Will I receive any payment or rewards for taking part in the study?

You will not receive any payment or reward for taking part in this study.

Who will see the information I give?

Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about this combined information. You will not be identified in these written materials.

This study is anonymous. That means that no one, not even members of the research team, will know that the information you give came from you. However, there are some circumstances in which we may have to show your information to other people. For example, the law may require us to show your information to a court. Also, we may be required to show information that identifies you to people who need to be sure we have done the research correctly; these would be people from such organizations as Eastern Kentucky University.

Can my taking part in the study end early?

If you decide to take part in the study, you still have the right to decide at any time that you no longer want to participate. You will not be treated differently if you decide to stop taking part in the study.

What happens if I get hurt or sick during the study?

If you believe you are hurt or if you get sick because of something that is done during the study, you should call David Stumbo, at 502-xxx-xxxx, immediately. It is important for you to understand that Eastern Kentucky University will not pay for the cost of any care or treatment that might be necessary because you get hurt or sick while taking part in this study. That cost will be your responsibility. Also, Eastern Kentucky University will not pay for any wages you may lose if you are harmed by this study.

What if I have questions?

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, David Stumbo, at 502-xxx-xxxx. If you have any questions about your rights as a research volunteer, contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636. We will give you a copy of this consent form to take with you.

Thank you so much for taking the time to consider being a part of this project! It promises to be a fantastic experience for everyone involved and your participation will be GREATLY appreciated.

Sincerely,  
David Stumbo, Researcher  
Doctoral candidate

[Begin Survey](#)

Please do not forward this email as its survey link is unique to you.  
[Unsubscribe](#) from this list

Powered by



## Study: Nursing Homes' Ergonomics Programs

We recently contacted you about a survey, but haven't received your responses.

*\*Please\* help* - this information is needed to help protect direct care workers.

Click the button below to start or continue the survey. Thank you for your time.

[Begin Survey](#)

Please do not forward this email as its survey link is unique to you.

[Unsubscribe](#) from this list

APPENDIX D  
QUESTIONNAIRE VERSION 3



# 11 Question Survey

## Nursing Home/LTCF Ergonomics

### Part 1: OSHA 300 information

**Directions:**

Please provide data on injuries among direct care staff (nurses, nurse aides, orderlies).

This information is found on the 2015 OSHA Form 300 for your facility. Reviewing OSHA 301 forms, for 2105 may be helpful.

**Notes:**

1. Often, a human resources manager or safety manager will have the information for this study.
2. Direct care staff are considered nurses, nurse aids (CNAs), and orderlies.
3. Musculoskeletal disorders are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs.
4. Examples of OSHA Form 300 and Form 301 are below

1. How many instances of musculoskeletal disorders occurred for among direct care employees due to patient moving and handling work, in 2015? These incidents should be recorded under (M)(1) or (M)(6) of the OSHA Form 300.



OSHA 300 Log - Example

OSHA's Form 300 (Rev. 8/1004)

**Log of Work-Related Injuries and Illnesses**

Attention: This form provides information relating to employee health and must be used to ensure that products for the safety of employees to the extent possible and the information is being used for occupational safety and health purposes.

Year 20 14

U.S. Department of Labor  
Occupational Safety and Health Administration

You must report all work-related injuries and illnesses that result in death or loss of consciousness, restriction or loss of ability to perform substantial work, or loss of 140 or more calendar days of work. You must also report all work-related injuries and illnesses that are diagnosed by a physician or health care professional. Do not report work-related injuries and illnesses that are diagnosed by a physician or health care professional for the purpose of workers' compensation or disability benefits only. Do not report work-related injuries and illnesses that are diagnosed by a physician or health care professional for the purpose of workers' compensation or disability benefits only. Do not report work-related injuries and illnesses that are diagnosed by a physician or health care professional for the purpose of workers' compensation or disability benefits only. Do not report work-related injuries and illnesses that are diagnosed by a physician or health care professional for the purpose of workers' compensation or disability benefits only.

Employer: After Nursing Home  
Address: 123 Main St.  
City: Springfield

Identify the person			Describe the case		Classify the case				Check the number of days lost or restricted		Check the "Job" column of OSHA's Bureau of Census													
(1) Case No.	(2) Employee's name	(3) Job title (e.g., title)	(4) Date of injury or onset of illness	(5) When the case occurred (e.g., falling off a roof)	(6) Describe injury or illness, part of body affected, and approximate date(s) when it occurred (e.g., hand laceration on 1/15/04)	(7) Number of days lost or restricted				(8) Days lost or restricted		(9) Job												
						Both	First	Other	None	Total	1	2	3	4	5	6	7	8	9	10	11	12		
1	Stella Smith	cleaner	2/6	slip	neck pain - hurt back					15														
2	Joe Jones	CNA	5/18	slip	bruise on foot - swollen					2														
3	Shirley Lee	CNA	7/9	slip	shoulder pain - elbow swollen					16														
4	Susan Jones	Subbing	8/10	slip	twisting - capital bone injury					6														
5	Teddy Rose	Subbing	10/1	slip	bruise on foot - swollen					3														
6	Bartholomew	CNA	12/1	slip	bruise on foot - swollen					12														
										4	2				19	4								

OSHA's Form 301  
Injury and Illness Incident Report

Attention: The information relating to employee health and must be used in a non-retaliatory and confidential manner to the extent possible while the information is being used for occupational safety and health purposes.



This Injury and Illness Incident Report is one of the forms you must fill out when a recordable work-related injury or illness has occurred. Together with the Log of Work-Related Injuries and Illness and the accompanying Summary, OSHA forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out OSHA Form 301 or an equivalent. Some state workers' compensation, harassment, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-506 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep OSHA Form 301 for 3 years following the year in which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by: John Smith  
Title: HR Mgr  
Name: John Smith Date: 8/1/88

Information about the employee

1) Full name: Shelly Smith  
2) Home: 42 Westmore  
City: Nelson State: NY  
3) Date of birth: 3/4/58  
4) Sex: M  
5) Job title: SA

Information about the physician or other health care professional

6) Name of physician or other health care professional: Dr. Kos  
7) Organization of physician or other health care professional: Immediate Care Facility  
City: NY State: NY

8) Was employee treated in an emergency room? No  
9) Was employee hospitalized or admitted as an inpatient? No

Information about the case

10) OSHA incident file # (e.g. 1) (If multiple cases are involved, list the primary case first)  
11) Date of injury or illness: 8/1/88  
12) Year employee began work: 1980 OSHA  
13) Year of case: 7/88 OSHA  Check if this case is amended

14) What was the employee doing just before the incident occurred? Describe the activity as well as the tools, equipment, or material the employee was using. Be specific. Example: "Working a ladder while carrying roofing materials." "Typing when the back began to hurt." "Lifting computer key-carry." Preparing resident to move.

15) What happened? Did you know the injury occurred? Example: "When ladder slipped as we then, worker fell 20 feet." "Worker was sprayed with chemical when glider broke during application." "Worker developed stomach ache while on duty." Was moving resident to lost gap. Res. lost shifted & fell pain. Res. lost shifted & fell pain. Strain back & shoulder.

16) What was the injury or illness? Did you know the injury or illness occurred just before it occurred? Be as specific as you can. Example: "Sprained back." "Strained back, hand." "Carpal tunnel syndrome." Strain back & shoulder.

17) What effect or substance directly harmed the employee? Example: "Concrete dust." "Solvent." "Which one was it?" If this question does not apply to the incident, leave it blank.

Public reporting burden for this collection of information is estimated to average 20 minutes per response, including the reviewing of instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Persons are not required to respond to this collection of information unless it displays a currently valid OSHA control number. Report any comments that will reduce the burden of this collection of information, including suggestions for improving the instructions, the data collection, and reporting and reviewing the collection of information. Persons are not required to respond to this collection of information unless it displays a currently valid OSHA control number. Send comments to Washington, DC 20201. Do not send comments to the OSHA office.



# 11 Question Survey

## Nursing Home/LTCF Ergonomics

### Part 2: Direct care staff

**Directions:**

**Please provide information on your direct care staff (nurses, nurse aides/CNA, orderlies) for our study.**

2. How many full-time, direct care employees worked in your establishment, in 2015?

3. How many hours did full-time direct care employees work at your facility, in 2015? (Include over-time, seasonal, temporary, and part-time work.)



# 11 Question Survey

## Nursing Home/LTCF Ergonomics

### Part 3: Ergonomics program

**Directions:**

Answer each of the questions as accurately as possible. Often, a human resources manager or safety manager will have this information.

Select the response that best describes your long-term care facility/nursing home for each question.

4. Does your facility have an ergonomics program for nurses, nurse aides, and orderlies?

- Yes
- No
- I don't know

5. Management at my facility supports our ergonomics program.

("Supports" here is characterized as: communicates with employees about the program, designates staff to be responsible for the program, holds staff accountable for the program, provides necessary resources for the program.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

6. Employees at my facility are involved in our ergonomics program.

("Involved" here is characterized as: employees help to identify ergonomics hazards, suggest ways to prevent ergonomics hazards, participate in a committee/group responsible for addressing ergonomics, can report ergonomics hazards, can give input regarding ergonomics.)

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

7. My employer acts to identify ergonomics problem.

("Acts" here is characterized as: interview staff, conduct employee surveys, observe workplace conditions, review injury and illness records, investigate accidents & incidents.)

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

8. My facility has implemented controls to prevent ergonomics injuries.

("Controls" here is characterized as: protocols for resident moving & lifting, no-lift policy, patient moving & lifting equipment, moving & lifting equipment is maintained, moving & lifting equipment is readily available to use.)

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

9. My employer provides ergonomics training.

("Training" here is characterized as: specifically for ergonomics, provided before doing patient moving & lifting, includes staff and supervisors, includes recognizing ergonomics-related injuries, includes regular refresher training.)

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

10. My facility has procedures to address ergonomic-related injuries & illnesses that occur.

("Procedures here is characterized as: procedures for employees to report ergonomic-related injuries & illnesses, procedures for the early diagnosis and treatment of ergonomic-related injuries & illnesses, light-duty program to allow employees to heal before returning to full duty, provision of information regarding employees' work duties to healthcare providers, procedures that allow employees to report injuries & illnesses without fear of discipline or firing.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

11. My employer evaluates ergonomics program effectiveness.

("Evaluates" here is characterized as: evaluations conducted on a regular basis, consideration of changes in incidence rates of ergonomic-related injuries & illnesses, consideration of changes in severity of ergonomic-related injuries & illnesses, consideration of changes in rate of job turnover, evaluation of patient moving & lifting equipment,

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

## VITA

David H. Stumbo, OHST  
416 West 4th Street  
Frankfort, KY 40601  
(502) 330-8688

### Personal Profile

- Varied collegiate instructional experiences.
- Accomplished occupational safety and health professional.
- Demonstrated managerial capability.

### Education

Doctoral Candidate in Educational Leadership and Policy Studies (2017)  
Eastern Kentucky University; Richmond, KY

Associate of Science in Fire Science (2016)  
Columbia Southern University; Orange Beach, AL

Master of Science in Safety, Security and Emergency Mgt. (2009)  
Eastern Kentucky University; Richmond, KY

Master of Science in Public Administration (2004)  
Kentucky State University; Frankfort, KY

Bachelor of Science in Biology (1994)  
Murray State University; Murray, KY

### Instructional Experience

Adjunct Professor (2015 - 2017)  
Western Kentucky University, College of Public Health  
Developed and taught 16-week distance courses; ENV 120 and 221.  
Utilized textbook and digital technologies using Blackboard platform.

Adjunct Professor (2012 - 2013)  
Eastern Kentucky University, College of Justice & Safety  
Served as Instructor of record for SSE 845 and OSH 379.

Instructor (2010)  
Maysville Community and Technical College; Maysville, KY  
Developed and provided IS 100 using classroom instruction and workshops.  
Course design allowed students to earn OSHA 30-hr. card for General Industry.

Facilitator (2009 - 2017)

Eastern Kentucky University, College of Justice & Safety

Assist in delivery of graduate and undergraduate courses using Blackboard.

Graduate: SSE: 815, 822, 828, 826, 832, 833, 834, 845, 860, 865

Undergraduate: OSH 412, 420, 366

#### Research Interests

I would like to continue research on ergonomics programs administered in nursing homes. I believe that immediate opportunities for me exist to further explore certain aspects associated with the management of ergonomics program by nursing homes. Additionally, I am keen to seek out research opportunities involving safety education and training for younger workers, as well as research involving applications of behavior modification and persuasion towards the end of producing safer workplace behaviors.

#### Occupational Safety and Health Experience

Safety Program Manager (2008 - present)

KY Labor Cabinet, Division of OSH Education and Training

Manage team of 9 safety professionals and 3 other staff members.

Implemented and currently administrate agency's eLearning activities.

Health Standards Specialist (2003 - 2008)

KY Labor Cabinet, Office of Standards Interpretation

Subject matter expert regarding industrial hygiene.

Issue official interpretations of regulations and polices.

Consultant - Industrial Hygiene (1999 - 2003)

KY Labor Cabinet, Division of OSH Education and Training

Conduct worksite surveys to determine and characterize hazards.

Present technical seminars on safety and health subjects.

Audit team member for Voluntary Partnership Program.

Compliance Officer - Industrial Hygiene (1996 - 1999)

KY Labor Cabinet, Division of OSH Compliance

Conduct compliance inspections and accident investigations.

Gather evidence, document findings, and testify at hearings.

#### Certifications

OSHA Authorized Outreach Trainer - Construction (2016)

Eastern Kentucky University; OSHA Outreach Education Center

Certified Public Manager (2008)

KY Personnel Cabinet; Office of Government Training

OSHA Authorized Outreach Trainer - General Industry (2007)

Eastern Kentucky University; OSHA Outreach Education Center



Certified Occupational Health and Safety Technologist (2003)  
Council on Certification of Health, Environmental, and Safety Technologies

Board Memberships

Board of Directors, Kentucky Safety and Health Network (2007 - present)