[redacted]

10/17/07

Hello- I wrote my comments directly on the pages. Thank You-

Sincerely,

CDC

Workplace Safety and Health

Hazard Review

Occupational Hazards in Home Health Care

September 2007

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DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

NIOSH

Abbreviations

BLS	Bureau of Labor Statistics
CDC	Centers for Disease Control and Prevention
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FTE	Full-time equivalent
HBV	hepatitis B virus
HCV	hepatitis C virus
HIV	human immunodeficiency virus
IV	intravenous
NIOSH	National Institute for Occupational Safety and Health
NRL	natural rubber latex
OSHA	Occupational Safety and Health Administration
SOII	Survey of Occupational Injuries and Illnesses
TB	Tuberculosis
TDICT	Training for Development of Innovative Control Technology
VA	Veteran's Administration

M-S
musculoskeletal
CMS ? (already)

Home health care workers perform many of the same tasks as workers in traditional health care settings, but the following conditions often make work in the home setting more difficult than work in a hospital or nursing home [Myers et al. 1993]:

- The home setting cannot be controlled such as a hospital or other institutional site.
- Home health care workers must often perform heavy work and strenuous lifting and moving tasks alone.
- Rooms in patients' homes are often small or crowded, and workers must often use awkward postures during patient care and transfer tasks. Pohjonen et al. [1998] found that 40% to 48% of the home health care workers' time is spent in poor posture combinations, including forward-bent and twisted postures that were associated with shoulder, neck, and back complaints [Torgen et al. 1995; Brulin et al. 1998b]. Shoulder and neck symptoms in home health care workers appear to be due to poor postures and forceful exertions during cleaning tasks as well as patient care tasks [Elert et al. 1992; Johansson 1995; Torgen et al. 1995; Knibbe and Friele 1996; Brulin et al. 1998a; Meyer and Muntaner 1999].
- Beds are often not adjustable, preventing the worker from raising or lowering the patient to the best position for a proper lift. (may not be?)
- Devices for helping with patient transfers are often not available in the home.
- Home health care workers must often endure long periods of standing or walking.
- The home health setting may involve psychosocial work factors (such as lack of control over work planning) that are risk factors for shoulder and neck pain, especially when combined with physical risk factors such as strenuous postures

[Johansson 1995; Brulin et al. 1998b].

- Patients may have physical or mental limitations that create heavy physical strains for home health care workers. Home care patients are generally expected to be more ambulatory and capable of self care than hospital or nursing home patients. ~~But contrary to this popular belief,~~ incapacity is common among home care patients: about 40% of them have one or more functional limitations [Jarrell 1997] because patients are being released after shorter hospital stays and require more intensive care during recovery at home.

1.4 ERGONOMIC METHODS FOR PREVENTING AND CONTROLLING MUSCULOSKELETAL DISORDERS

Ergonomics is the applied science of work design, in which all components of the work environment (including furniture, tools, equipment, and tasks) are designed to best accommodate the natural capabilities of the worker. The ergonomics approach optimizes the worker's safety, health, and performance.

Researchers have found that help from a second person reduces the risk of injury during patient-handling tasks, but not enough to make the task acceptably safe. For example, one study concluded that manual patient-handling is "an extremely hazardous job that had substantial risk of causing a low-back injury whether with one or two patient handlers" [Marras et al. 1999]. For this reason, ergonomic intervention (including electronic and mechanical devices to help with patient transfers) is the most promising approach for reducing low-back injuries during patient handling.

Comprehensive ergonomic interventions using appropriate equipment and training have resulted in dramatic reductions in the incidence and severity of musculoskeletal injuries among health care workers [Garg and Owen 1994; White 1997; Garg 1999; Zhuang et al. 1999; Ronald et al. 2002; Collins et al. 2004; Parsons et al. 2006b]. For example, in one study, a "zero-lift" intervention program was implemented in seven nursing homes and one hospital to eliminate manual patient transfers [Garg 1999]. Hoists and other equipment were used instead of the person being lifted manually. Injuries related to patient transfers were reduced 39% to 79%. Other reductions were noted in the average number of lost workdays (86%), restricted workdays (64%), and workers' compensation costs (84%). Similarly, sick leave related to back injury was reduced 84% after another intervention using hoists and other equipment [White 1997]. As summarized by Nelson et al. [2003], numerous other case studies using ergonomic interventions in hospitals and nursing homes have also demonstrated large reductions in injury rates, workers' compensation costs, medical costs, insurance premiums, lost workdays, and restricted workdays.

1.4.1 Devices for Aiding Patient Transfers from Beds, Chairs, or other Facilities

Numerous devices such as draw sheets, slide boards, rollers, slings, belts, and mechanical or electronic hoists (to lift the patient) have been designed to assist health care workers and patients. The main lesson to be learned from studies evaluating such devices is that each situation must be evaluated separately to determine the device that will be the most suitable for (1) the people using it, (2) the place(s) it will be used, and (3) the task(s) for which it will be used [Garg and Owen 1994; Zelenka et al. 1996; Elford et al. 2000].

Sources of useful information regarding "patient-care ergonomics" are now available. For example, recognizing the importance of ergonomics for protecting the safety of health care workers, the Occupational Safety and Health Administration (OSHA) has issued ergonomics guidelines for nursing homes that emphasize the appropriate use of assistive devices during patient handling [OSHA 2003]. In addition, the Patient Safety Center of Inquiry [2003] has published a resource guide about safe patient handling and movement. The guide describes assistive devices and ergonomics program elements that have been tested within the Veterans' Health Administration and are being implemented on an ongoing basis at many other health care facilities. Some of the information from these sources is specific to nursing homes and hospitals, yet much of it can be reapplied to home health care.

Figures 1.1 through 1.10 provide just a few examples of assistive devices that can be used in home settings. Many more types and varieties of products designed for a wide array of patient handling and other home health care needs are commercially available. Patients, family members, and home health care personnel should consult with equipment vendors and the patient's primary health care provider to select appropriate assistive devices that will minimize the worker's strain without compromising the patient's safety or comfort. In some cases, the costs for such devices are either fully or partially covered by insurance and require a physician's prescription. Most importantly, once a device is obtained, it is imperative that all persons who will use it are thoroughly trained to use it safely and properly. It is also necessary to arrange periodic maintenance and cleaning for some devices, such as hoists.

1.4.2 Challenges and Solutions

Implementing ergonomic interventions in home health care settings is challenging, because

- workers may think assistive devices will be inconvenient and time-consuming,
- patients may fear that assistive devices will be unsafe or uncomfortable, and

patients and families may be reluctant or unable to accommodate changes in the home.

These types of challenges can be overcome by making a firm commitment to use the ergonomic approach. Workers, supervisors, patients, and families should all be informed about the risks involved in moving patients when an ergonomic approach is *not* used. These include not only the risk of overexertion injury in the worker, but also the risk of injury to the patient from being unintentionally dropped, jarred, or otherwise roughly handled during unassisted transfers. Training in the use of assistive devices may lessen the apprehensions of both the patient and home health care worker.

Whenever possible, use devices to aid patient transfers. Professionals with appropriate expertise in patient care ergonomics should be consulted to (1) determine when assistive devices are necessary, (2) provide training in the use of the equipment, and (3) identify and solve problems. Solutions to problems may include the following:

- Involving workers, patients, and families in identifying problems with lifting or patient transfers and designing and implementing solutions
- Making workers aware of the advantages of using the right equipment and having the appropriate training (for example, saving time and avoiding injuries) [Garg and Owen 1994; White 1997]
- Teaching patients how assistive devices may benefit their safety
- Using the skills of an occupational therapist (OT) or physical therapist (PT) in while planning care.

Some simple solutions have been used to substantially reduce the number of patient transfers that nursing personnel are required to perform [Garg and Owen 1994; Parsons et al. 2006]:

- The use of a hoist with a built-in weighing scale eliminated transfers made for the sole purpose of weighing the patient (from wheelchair to weighing scale and from weighing scale to wheelchair).
- A rolling toileting or showering chair was used to reduce the six transfers needed for toileting and showering (bed to wheelchair, wheelchair to toilet, toilet to

wheelchair, wheelchair to bathtub, bathtub to wheelchair, and wheelchair to bed) to two transfers (bed to toileting/showering chair and toileting/showering chair to bed).

Other equipment such as adjustable beds, raised toilet seats, shower chairs, grab bars, etc. are also helpful for reducing musculoskeletal risk factors. This type of equipment keeps the patient at an acceptable lift height and allows the patient to help himself or herself during transfer when possible.

Even when appropriate assistive devices are used during patient care, it is impossible to eliminate completely the need for some physical exertion. For example, when using a hoist, the patient must be moved to fasten the sling. Workers must support and balance the patient while using hoists and other devices. These tasks always pose some risk of injury [Patient Safety Center of Inquiry 2003]. To minimize the risk, certain principles of body mechanics should be followed to avoid harmful postures as much as possible [Owen and Garg 1990; Zhuang et al. 1999; Garg and Owen 1994; Nelson et al.1997; Nelson et al. 2003].

Recommendations for Employers

- Provide ergonomic training for employees.
- Evaluate each patient care plan to determine if ergonomic assistive devices are appropriate.
- Provide ergonomic assist devices when needed.
- Review the training, the care plan and the assistive devices once installed are in use by caregivers and the patient in the home.

Recommendations for Workers

- Use the provided ergonomic assist devices.
- Notify your employer if you observe the need for additional ergonomic assistive devices.

- Adjust the height of the bed to eliminate bending down while working with the patient. Adjustable "hospital" beds are ideal, but if a standard bed is too low, it should be raised on a stable frame or platform.

- Move along the side of the bed to stay in good postures while performing tasks at the bedside, instead of standing in one location while bending, twisting, and reaching to perform tasks.

- When manually moving the patient, stand as close as possible to her or him, keeping your back untwisted, your knees bent, and your feet apart, with one foot in the direction of the move to avoid rotating your spine.

- Push or pull the patient rather than lift. However, since pushing and pulling tasks can cause harmful "shear" forces on the spine, a friction reducing device such as a slip sheet should be used whenever possible [Nelson et al. 2003]. The use of gentle rocking motions can also reduce exertion while moving a patient.

- Pulling a patient up in bed is made easier by ensuring the head of the bed is tilted downward, and by raising the patient's knees.

- Applying anti-embolism stockings (worn by many elderly patients) by pushing them on while standing at the foot of the bed reduces exertion compared with standing at the side of the bed.

1.5 RESOURCES

NIOSH [2006]. Safe lifting and movement of nursing home residents. Cincinnati, OH: U.S.

- Compliance with universal precautions
- Engineering controls and work practices to eliminate or minimize worker exposure, and training in these controls and work practices. Engineering controls isolate or remove the bloodborne pathogens hazard from the workplace and include

  —sharps disposal containers,

  —self-sheathing needles, and

  —safer medical devices, such as sharps with engineered injury protection and needleless systems.

  — The process for sharps disposal
- Input from non-managerial employees responsible for patient care in selecting engineering controls (e.g., medical devices with safety features) and work practices. This must be documented in the written exposure control plan.
- Prohibition of bending, recapping, or removing contaminated needles from the syringe unless there is no feasible alternative
- Prohibition of shearing or breaking contaminated needles
- Free hepatitis B vaccinations offered to workers with occupational exposure to bloodborne pathogens
- Post-exposure evaluation, with followup when appropriate
- Training workers in bloodborne diseases
- A sharps injury log maintained by the employer.
- Protection of confidentiality of the injured worker in the injury log.

Evidence shows that using needle devices with safety features or needleless systems reduces needlestick injuries in IV systems and in relation to blood drawing. Disposal of the needle

devices in appropriate sharps disposal containers is also an important prevention method [Gartner 1992; Yassi et al. 1995; Jagger 1996; CDC 1997; Lawrence et al. 1997; NCCC and DVA 1997; Zafar 1997; NIOSH 1998; CDC 2004].

Listed below are examples of needle safety device designs:

- Needleless connectors for IV delivery systems
- Protected needle IV connectors
- Needles that retract into a syringe or vacuum tube holder
- Hinged or sliding shields attached to phlebotomy needles, winged-steel needles, and blood gas needles
- Protective encasements to receive an IV stylet as it is withdrawn from the catheter
- Sliding needle shields attached to disposable syringes and vacuum tube holders
- Self-blunting phlebotomy and winged-steel needles
- Retractable finger or heel-stick lancets

? !

In addition to the above recommendations, home health care workers should carry a supply of standard puncture-proof sharps containers in their car for use as needed when an adequate sharps disposal container is not easily available in the home.

3.4 PREVENTION AND CONTROL

3.4.1 Selecting and Evaluating Needle Devices with Safety Features

Selecting and evaluating needle devices with safety features should include the following steps

4 OCCUPATIONAL STRESS AMONG HOME HEALTH CARE WORKERS

4.1 INTRODUCTION

Home health care work involves unique challenges not present in ~~institutional~~ or hospital settings with many environmental and work organization characteristics that are beyond the control of the workers. Little empirical study has been conducted of stress among home health care workers, but the few studies that have been completed indicate that home health care may be quite stressful. The rate of turnover is very high among health care workers, particularly home health care workers. Stonerock [1997] has reported turnover rates as high as 75% among home health care workers in some parts of the country and notes that within the labor pool from which home health care workers are drawn, other service occupations often compete more favorably. Attracting workers and retaining them is therefore a high priority for many home health care agencies, and providing a healthier, less stressful, work climate is an important part of any retention strategy. The following sections define job stress, discuss job stressors present in home health care work, and provide suggestions for how job stress may be prevented or reduced for home health care workers.

4.2 JOB STRESS

NIOSH defines job stress as "the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker" [NIOSH 1999]. Job stressors include job and task demands, such as work overload, time pressure, lack of task control and role ambiguity, and organizational factors, such as poor interpersonal relations, lack of support from supervisors and coworkers, and unfair management practices [Hurrell and

Murphy 1992]. Other sources of stress, which may be particularly important in the home health care environment, are socioeconomic factors, training and career development issues, and conflict between work and family roles and responsibilities [Sauter and Swanson 1996]. Stress can result in short-term psychological, behavioral, or physical reactions such as mood changes, sleep disturbances, or blood pressure changes. If stress is prolonged, illnesses such as depression and coronary heart disease may develop [Hurrell and Murphy 1992; NIOSH 1999].

4.3 STRESSES OF HOME HEALTH CARE WORKERS

Home health care workers report some of the same stressors as other health care workers, such as the following:

- Ill and dying clients [Davidhizar 1999]
- Workload and time pressures [Jarrell 1997]
- Increasing emphasis on cost containment [Davidhizar 1999]
- Patient aggression [El-Askari and DeBaun 1999]
- Patients who are disoriented, irritable or uncooperative [BLS 2006]

7. unsafe neighborhoods, dangerous dogs, etc. etc. etc.

In addition, home health care involves stressors not present in most health care settings: home health care workers must provide care in a variety of settings and hygienic conditions, often with limited supplies or equipment [El-Askari and Debaun 1999]. Their work is not directly supervised, and they generally work alone [BLS 2006]. ~~Home health care workers might~~ be asked ~~to drive to unfamiliar areas~~. ?

Home health care workers are frequently middle-aged women, over 30 % have less than a high

school education, and over 25% speak a language other than English at their home [ElAskari and DeBaum 1999, Montgomery et al. 2005]. Often they are immigrants and/or women of color who may encounter condescending attitudes from clients and client families [Neysmith and Aronson 1997]. In addition to a lack of respect from clients, home health care workers may not be highly valued by their management or rewarded adequately for their performance [Stonerock 1997]. Management may not take a proactive enough stance in removing workers from an unsafe work environment or providing support when workers encounter abusive client or client family behavior [Kendra et al. 1996]. Families may expect home health care workers to provide inappropriate services, and workers may encounter role conflict arising from ambiguity about who their "boss" is, and whose instructions they should follow: the client, who is paying the agency for their services, or the agency that employs them [Prager 1996].

Note: not all aides are employed. . . .

Both home health care aides and nurses face time pressures arising from their client loads. Spoelstra [1996] examined the number of visits per 8-hour day and number of miles traveled per visit by home care RNs in 1987 and 1996. She found that the average number of visits per day had increased from 5 to 6, and the average number of miles traveled per visit had increased by nearly 1 mile to 12.4 miles. Time pressure may compromise patient care, or may prompt home health care workers to not perform tasks for a client that the client is able to do (e.g., feed themselves), but which require extra time [Prager 1996]. Safety can also play a role in quality of patient care. Home health care workers report that they shorten their visits if they feel unsafe [Kendra et al. 1996]. Nurses may have to deal with clients who do not comply with prescribed medicine orders, or who refuse services [Kendra et al. 1996]. During the limited time nurses have to spend with their clients, they must educate clients about medical conditions or treatment,

health care workers agree that the one-on-one connections they form with patients create relationships equally enjoyed by caregiver and care-receiver [Gabriel 2004]. Most home health care nurses perceive their work as moderately to highly exciting and selected to work in home care for the opportunity for direct patient contact and opportunity for personal fulfillment [Baldwin et al. 1994].

4.4 PREVENTION AND CONTROL

Prevention or intervention strategies can be divided into those that focus on the employer and those that focus on the worker.

Employers

Interventions that focus on removing or reducing the sources of stress at work are more effective in the long run. For home health care workers, such strategies for employers may include the following:

- Providing frequent, quality supervision and agency staff support
- Providing adequate job training and preparation (including continuing education opportunities) (← If medicare-certified HHA this is required - 12 hours a year. . .)
- Holding regular staff meetings in which problems, frustrations, and solutions can be discussed
- Include lunch breaks and sufficient travel time in the workers schedule
- Have policies and procedures in place to ensure worker safety [Kendra et al. 1996].
- Providing wages and benefits that are competitive with what other service organizations are offering [Prager 1996; Jarrell 1997; Stonerock 1997].

The last recommendation is particularly important for retaining home health care workers. In a survey sample, Kennedy-Malone [1996] found that 50% of home health care workers stated that "no pay increase" was a "very important" reason for possible resignation; 40% said the same for "no health insurance." Given that the social aspects of home health care are one of the most rewarding aspects of the job, factors that reduce time pressure and a perception of being rushed may benefit both quality of patient care and worker well-being.

Workers

Individual stress management [Davidhizar 1999] includes techniques such as the following:

- Developing effective coping strategies (e.g., reframing interpretations of stressful situations)
- Improving time management or planning skills
- Developing supportive relationships
- Performing relaxation exercises

Stress management techniques can be quite effective in enabling workers to deal with stress. For example, nurses trained in biofeedback or progressive relaxation techniques reported a significant increase in their ability to cope with stress at work [Murphy 1983]. However, since individual stress interventions do not remove workplace sources of stress, they may lose effectiveness over time [Murphy 1987]. ← This is a very old reference . . .

4.5 CONCLUSIONS

5 VIOLENCE IN HOME HEALTH CARE

5.1 INTRODUCTION

Serving the community is the essence of home health care. Home health care providers are potentially more vulnerable to violent assault than those who provide health care in a hospital because they face an unprotected and unpredictable environment each time they enter the patient's community and home. They may be asked to work in unfamiliar communities of varying socioeconomic status. According to estimates of the BLS Survey of Occupational Injuries and Illnesses (SOII) [BLS 2006], 290 nonfatal assaults on home health care workers occurred in 2005—a rate of 5.3 per 10,000 full time workers, more than twice the rate of 2.4 for general industry.

An effective violence protection program requires the following:

- The patient should provide a safe environment in the home.
- The worker should be able to assess risks in the environment.
- The employer should provide information to the patient about the patient's responsibility.
- The employer should train the staff to assess risks and implement acceptable interventions [Sylvester and Reisener 2002].

5.2 DESCRIPTION OF THE HAZARD

The spectrum of workplace violence ranges from threats of assault (by human or animal) to homicide. The NIOSH definition of workplace violence is as follows: violent acts, including

physical assaults and threats of assaults, directed toward persons at work or on duty [NIOSH 1996]. Examples of violence include the following:

- *Threats:* expressions of intent to cause harm (verbal, body language, written)
- *Physical assaults:* attacks ranging from slapping, beating, rape, homicide, and the use of weapons such as firearms, bombs, knives
- *Mugging:* an aggressive assault, usually by surprise and with intent to rob.

The extent of violence in the home care industry is poorly defined due to under-reporting [Lanza and Campbell 1991]. The following are reasons why violence is often not reported:

- No consistent definition of violence or standardized reporting procedures are available.
- Workers fear accusations of incompetence or the perception by the employer that the worker was the cause of the violence.
- Health care workers may believe that dealing with violent behavior is part of the job.
- Workers are embarrassed ~~—~~ and may be hesitant to report.

Because the environment of home health care workers is more unprotected and unstructured than in many other health care settings, home health care workers often must resolve problems, and often without help from coworkers. Equipment and resources are limited compared with other health care settings. The patients have complex physical, psychological, psychiatric, and social needs. The potential for alcohol and drug abuse and the presence of firearms in ethnic homes further endangers the worker [OSHA 1996; Fazzone 2000; McPhaul 2004]. Family issues are more likely to increase in intensity and become out of control in the home than in the hospital setting. In addition to the severity of the patient's illness, a complex work environment (e.g., chaotic family relationships, lack of hygiene, presence of animals) may increase risk and stimulate conflict leading to violence (↓ No or poor resources)

Violence or safety concerns may also adversely affect the quality of patient care. If home health care workers do not feel safe and they limit the length of time of their visit or reduce the frequency of visits, patient assessment and education will decrease. Scheduling visits during daylight hours to avoid night time fears of violence may not be a viable alternative since this could adversely influence medication schedules. Fear could also have an impact on health care delivery by reducing the number of available staff. All these factors may affect patient outcomes [Kendra et al. 1996; Brillhart 2004].

NIOSH focus group studies and reports of surveys conducted among home health care providers indicate that not all home health care agencies have written policies and procedures regarding personal safety. Written policies may not be available to the staff. The employer may underestimate the risks the workers encounter and overestimate the support provided [Kendra 1996; NIOSH 1999].

5.5 PREVENTION AND CONTROL

OSHA identified the following five elements of an effective violence prevention program in the document *Guidelines for Preventing Workplace Violence for Health Care and Social Service Workers* [OSHA 1996].

- Management commitment and employee involvement working together
- Work site analysis
- Hazard prevention and control
- Safety and health training

- Keep close track of staff members' schedules.
- Investigate all reports of a dangerous work environment and of violent assault.
- In the case of an unacceptable home environment, advise the patient on working with social service agencies, the local police department, or family members and neighbors to make the home less hazardous so care can continue.
- Prepare to help workers who have experienced violence. Despite precautions and protective policies, violent events may still occur.

5.7 PROTECTIVE EQUIPMENT

- Provide cell phones to all staff on duty. Reports of surveys and the NIOSH focus groups indicate that home health care workers consider cell phones to be lifelines [NIOSH 1999].
- Consider other equipment such as employer-supplied vehicles, emergency alarms, two-way radios, and personal bright flashlights to enhance safety [NIOSH 1999; Fazzone et al. 2000].

5.8 SAFETY TRAINING

- Inform workers about the risks of their assignments, and how to assess the safety of their work environment and its surroundings.
- Include training on recognition and management of violent behavior (such as recognizing signs and body language associated with violence assault), prevention of violent behavior, verbal de-escalation techniques, management of angry patients, recognition of and protection against gangs and gang behavior.

- Include policies and procedures for violence reporting and record-keeping.
- Conduct training on hire and annually thereafter. Published surveys of health care workers indicate home health care workers do not always receive sufficient training about personal safety. Those surveys also revealed inequity in training between professional staff and non-professional staff and between full time and part time home health care providers [Steinberg 1995].

5.9 SAFETY TIPS FOR WORKERS

- Schedule your visits during daylight hours in high-crime neighborhoods.
- Use the buddy system for high-crime areas.
- Always know where you are going. Have accurate directions to the house or apartment.
- Always let your employer know where you are and when to expect you to report back.
- When driving alone, have the car windows rolled up and doors locked.
- Park the car in a well lighted area.
- Park in an area away from large trees or shrubs that a person could hide behind.
- Keep health care equipment, supplies, and personal belongings locked in the trunk of the vehicle.
- Before getting out of the car, check the surrounding location and activity. If you feel uneasy, do not get out of the car.
- During the visit, use basic safety precautions:

  —Be alert.

  —Evaluate each situation for potential violence.

  —Watch for signals that may be associated with impending violent assault, such

as verbally expressed anger and frustration, threatening gestures, signs of drugs or alcohol abuse, and the presence of firearms.

- Maintain behavior that helps to diffuse anger:

  —Present a calm, caring attitude.

  —Do not match threats.

  —Do not give orders.

  —Acknowledge the person's feelings.

  —Avoid behaviors that may be interpreted as aggressive (for example, moving rapidly or getting too close, unnecessary touching, or speaking loudly).

- If possible, keep an open pathway for exiting.
- Trust your own judgment to avoid situations that don't feel right.
- If you cannot diffuse the situation quickly, take these steps:

  —Shorten the visit. Remove yourself from the situation.

  —Call for help (use your cell phone).

  —Report any incident of violence to your employer.

  —Call the police if necessary.

6 OTHER HAZARDS IN HOME HEALTH CARE

6.1 INTRODUCTION

Other potential safety hazards to home health care workers deserve mention, including exposure to animals, substandard home hygiene, temperature extremes, lack of water, exposure to weapons, illegal drugs, verbal abuse, severe weather, falls, infectious diseases, pandemics, acts of terrorism, and automobile use. Employers and home health care workers should follow the recommendations listed under each hazard.

6.2 ANIMALS

In focus groups run by NIOSH [1999], several workers expressed concern about animals in the home. The workers were concerned about being bitten or otherwise injured by unrestrained animals. Brillhart et al. [2004] reported a home care worker who found a snake wrapped around an IV pole.

Employers

- Make restraint of aggressive animals a condition of care giving.

Workers

- Wait outside until the pet is restrained.
- If you see fleas or other pests discuss appropriate control measures with the patient.
- If the patient isn't receptive to pest control measures, ask your employer to contact social services to help the patient and make it possible to work there.

6.3 HYGIENE

Hygiene is also a concern of home health care workers, as the home may be unacceptably dirty when the patient cannot physically maintain acceptable home hygiene.

Employers

- Train employees about basic hygiene and what they should do if the home they visit is unhygienic.

Workers [Brillhart et al. 2004]

- If a home is unhygienic, take in only the necessary equipment and supplies so you do not have to set down personal property.
- Use disposable gloves and hand sanitizer.
- Do not ~~plan on~~ using the toilet in a patient's home.
- If a home is unsanitary, ask your employer to contact social service agencies to help the patient and make it possible for you to work there.

6.4 TEMPERATURE EXTREMES

The home health care worker may discover temperature extremes in the homes.

Employers

- Train employees about acceptable temperature ranges and what they should do if the home they visit is extremely cold or warm.

Workers [Brillhart et al. 2004]

- If the temperature is cold enough to present a health concern for you and the patient and you cannot change the thermostat, ask your employer to contact social service agencies to help the patient. Local resources may be available to help pay heating bills.

- If a home is uncomfortably warm, open the windows, use fans, and if necessary, apply cool compresses. If you believe the patient is at risk, ask your employer to contact social service agencies to help the patient.

6.5 LACK OF WATER

Home health care workers may encounter a home with no running water or water that is of poor quality. Homes may use bottled water for drinking and have access to cisterns for flushing and bathing.

Employers

- Train employees about potable and non potable water and how to ask the patient about available drinking water in their home.

Workers [Brillhart et al. 2004]

- If conditions present a health hazard, ask your employer to contact social service agencies to help the patient.
- Consider bringing several gallons of water if it is needed for patient care.
- Use hand sanitizer and do ~~not plan on~~ using the toilet in a patient's home with minimal water.

6.6 WEAPONS

Home health care workers may be exposed to legal or illegal weapons in the home.

Employers

- Establish a "no weapons" policy in patient homes.
- If such a policy is not required, request at a minimum that all weapons be disabled and

removed from the bedside area to a secure location before service is provided.

Workers

- Notify your employer if you observe a weapon in the patient home.
- If you feel threatened, leave immediately.

6.7 ILLEGAL DRUGS

Home health care workers may discover illegal drugs being used by the patient or by family members in the home.

Employers

- Train employees to identify different types of illegal drugs and drug paraphernalia and which ones place health care workers at a higher risk, such as those that require the use of needles.

Workers

- If you notice strong chemical odors or suspect a clandestine drug lab (such as one that may manufacture methamphetamine) in the area, notify the local police and your employer.
- If someone approaches you looking for ephedrine or pseudoephedrine, notify the local police and your employer.
- If someone approaches you looking for needles, notify your employer.

6.8 VERBAL ABUSE

Verbal abuse is a form of workplace violence and a source of workplace stress. Verbal abuse may come from the patient, family members, or people in the community. Verbal abuse may be

as subtle as constantly requesting that the home health care worker perform duties out of the scope of their job (such as cleaning), or complaints about their job performance or appearance.

Employers

- Train employees to recognize verbal abuse and that they do not have to tolerate verbal abuse.

Workers

- Ask the abuser to stop the conversation.
- If the abuser does not stop the conversation, notify your employer.

(leave the home - escalate...)

6.9 FALL PROTECTION

Rates calculated by source of injury or illness [BLS 2006a] show that the 2005 incidence rates (per 10,000 workers) for injuries or illness resulting in lost time or restricted duty caused by floors, walkways, or ground surfaces are higher for home health care workers (41.1) than for hospital workers (34.3). Home health care workers ~~may~~ do not have control over the walkways and may encounter icy pavement, wet floors, or wet carpeting. Loose "throw" rugs and other floor coverings can also be hazardous.

Employers

- Train workers about fall protection and steps they can take to reduce their potential for falling.

Workers

- Wear sturdy flat shoes with good slip resistance properties.
- Walk slowly on icy or wet surfaces.
- Examine the patient's walking path to the bathrooms, eating areas, and sitting areas:
  —Remove or securely tape down rugs with double-sided tape.

(Patient rights - input + agreement?)

—Remove cords and any other loose materials in the walking path that could cause the patient or yourself to slip, trip, or stumble [Parsons 2006].

6.10 SEVERE WEATHER

Home health care workers may be exposed to severe weather including tornados, earthquakes, blizzards or ice storms. Their initial and annual training should include what to do to protect themselves while driving or in a patient's home during each type of severe weather.

The following protective measures for various types of severe weather are recommended by the Federal Emergency Management Agency (FEMA) (www.fema.gov/hazard/types.shtm):

Tornado

- Seek shelter immediately if you are under a tornado warning
- Go to a designated shelter area such as a safe room, basement, storm cellar, or the lowest building level.
- If there is no basement, go to the center of an interior room on the lowest level (closet, interior hallway) away from corners, windows, doors, and outside walls.
- Put as many walls as possible between you and the outside.
- Get under a sturdy table and use your arms to protect your head and neck.
- Do not open windows.
- If you are in a mobile home, get out. Mobile homes, even if tied down, offer little protection from tornados or hurricane winds.

- If you are in a vehicle, get out immediately and go to the lowest floor of a sturdy, nearby building or a storm shelter.

Earthquake

- Be aware that some earthquakes are actually foreshocks and a larger earthquake might later occur.
- If you are indoors,

  —Drop to the ground,

  —Take cover by getting under a sturdy table or other piece of furniture, and

  —Hold on until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.

  —Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.

- If you are outdoors,

  —Stay there.

  —Move away from buildings, streetlights, and utility wires.

- If you are in a moving vehicle,

  —Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.

—Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake.

Blizzard or Ice Storm

- Drive only if ~~it is~~ absolutely necessary. If you must drive, do the following:

  —Travel in the day, don't travel alone, and keep others informed of your schedule.

  —Stay on main roads; avoid back road shortcuts.

  —Use snow tires or chains when appropriate.

- If a blizzard or ice storm traps you in the car, do the following:

  —Turn on hazard lights and hang a distress flag from the radio antenna or window.

  —Remain in your vehicle where rescuers are most likely to find you.

  —Do not set out on foot unless you can see a building close by where you know you can take shelter.

6.11 CHEMICAL SPILLS OR ACTS OF TERRORISM

The following protection is recommended by FEMA (www.fema.gov/hazard/types.shtm) in the event of chemical emergencies or acts of terrorism:

- If you are requested to evacuate an area, do so immediately.
- Stay tuned to a radio or television for information on evacuation routes, temporary shelters, and procedures.
- Follow the routes recommended by the authorities—shortcuts may not be safe. Leave at once.
- If you are told to seek shelter and you are in a vehicle, stop and seek shelter in a

permanent building.

- If you must remain in your car, keep car windows and vents closed and shut off the air conditioner and heater.
- If you are requested to remain indoors,

  —Close and lock all exterior doors and windows.

  —Close vents, fireplace dampers, and as many interior doors as possible.

  —Turn off air conditioners and ventilation systems.

  —Stay in a room that is above ground and has the fewest openings to the outside.

  —Seal gaps under doorways and windows with wet towels or plastic sheeting and duct tape.

6.12 INFECTION CONTROL

Home healthcare workers may be exposed to an infectious patient during home visits. Home health care workers have increasingly become exposed to tuberculosis (TB) since the 1993 restructuring of the TB treatment guidelines requiring directly observed therapy for TB patients [Wurtz et al. 1996]. In addition, the worker may be a source of infection to the home patient if the worker has an infectious condition or contaminated equipment. While the bloodborne pathogens standard (as discussed in Chapter 3) includes protection from blood and other potentially infectious materials, there also needs to be an additional infection control program in place. Siegel et al. [2007] discussed the basic principles of infection control that should be included:

Employers

- Implement an infection control program which includes:

  — Appointment of an infection control nurse or manager to oversee the program

  —Infection control training for healthcare staff that is provided upon hire and periodically thereafter

  — Training on standard and universal precautions

  —Information on hand hygiene and cough etiquette.

  —Training and means for healthcare staff to disinfect or sterilize their medical equipment

- Provide all necessary PPE that healthcare staff may need (e.g. gloves, eye protection, masks and respiratory protection)

- If a patient has a known case of a disease that can be spread through the air (such as tuberculosis), implement appropriate infection control and respiratory protection plans for the patient and worker including the following [Wurtz et al. 1996; CDC 2005]:

  —Training the patient on proper cough etiquette

  —Training the worker on ways to increase ventilation in the immediate area (e.g. open windows in the patients' room).

  —Precautions about the use of proper respiratory protection (following the OSHA 29 CFR 1910.134 Respiratory Protection Standard)

- In the event of a pandemic occurrence such as an avian influenza that has begun human to human transmission, reinforce your infection control plan and enact a pandemic influenza plan. See the www.pandemicflu.gov Web site for a Home Health Care Services Pandemic Influenza Planning Checklist.

- Consult the Centers for Disease Control and Prevention (CDC), OSHA, and the State and local health departments to prepare the pandemic influenza plan.

Workers

- Follow your employers infection control plan
- Wear appropriate personal protection equipment including medical exam gloves and respiratory protection when necessary.

6.13 AUTOMOBILE USE

During 2005, more than 1,200 transportation incidents to home health care workers resulted in injuries. The 2005 incidence rate of highway-related injuries resulting in lost time or restricted duty is 22.4 per 10,000 home health care workers, more than 10x the incidence rate for hospital workers (2.5 per 10,000) [BLS 2006b]. NIOSH has published a document to help prevent work-related roadway crashes with recommendations targeted to both employers and workers [NIOSH 2003].

Employers

- Enforce mandatory seat belt use.
- Ensure that workers who drive for the job have valid driving licenses.
- Include fatigue management in safety programs.
- Provide vehicles that offer the highest occupant protection in the event of a crash.
- Ensure necessary worker training for driving specialized vehicles.
- Avoid requiring workers to drive irregular hours or significantly extended hours.

- Establish schedules so that drivers can comply with speed limits. ? clarify meaning?
- If the employer owns the vehicles, ensure that the vehicle is serviced on a regular basis.

Workers

- Use seat belts.
- Avoid using cell phones while driving.
- Avoid other distracting activities such as eating, drinking, or adjusting non-critical vehicle controls while driving.
- ~~Purchase~~ detailed maps of urban areas. (more quest?)
- Have the car checked and serviced regularly.
- Always have an adequate amount of gas in the gas tank.

6.14 RESOURCES

Contact or visit Web sites of the following organizations for more information about other hazards to home health care workers:

U.S. Department of Homeland Security, Federal Emergency Management Agency: Available at www.fema.gov Date accessed June 25, 2007.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Atlanta, GA. Information about avian flu available at: www.cdc.gov/flu/avian/ Date accessed June 25, 2007.

7 CONCLUSIONS

BLS has projected home health aides ~~as~~ to be the fastest growing occupation through 2014. Home health care workers including home health care aides, nurses, physical therapists, occupational therapists, speech therapists, therapy aides, social workers and hospice care workers face unique hazards delivering services in patient homes and different socio-economic communities. Persons, other than the patient, who are residing or visiting in the patient's home, may be a risk to the worker. Home health care workers are susceptible to injuries resulting from overexertion due to patient transfers into and out of bed or assisting with patient walking or standing. Home health care workers may potentially be exposed to bloodborne pathogens, needle sticks, latex, stress, violence occurring in the home or street, and may encounter animals, various hygienic properties in the homes, temperature extremes, lack of water, weapons, illegal drugs, verbal abuse, exposure to infectious agents, severe weather, or a response to a chemical spill or act of terrorism. The large amount of driving from home to home exposes the home health care worker to vehicular injury or fatality.

The chapters in this guidance book provide the employer and worker with the knowledge to improve the safety of the home health care ~~environment~~ worker. A proactive safety training program should be implemented to reassure the home health care worker that their safety is of utmost importance to the employer. Safety awareness and response training should be part of the initial and ~~annual~~ ongoing training of home health care staff. It is suggested that employers maintain a safety committee and keep an open dialogue with the home health care workers to let them know that all of their safety concerns ~~will be~~ are taken seriously. A summary checklist for use by

the employer and worker is provided below in Section 7.1. This checklist is for use as one way to focus on and evaluate safety - while identifying educational needs.

7.1 SUMMARY CHECKLIST FOR HOME HEALTH CARE WORKERS SAFETY

Employers	YES	NO
Is there an active safety program with a safety manager and a safety committee that includes employees from across the company?		
Does initial training include safety hazards and prevention?		
Does annual training review safety and any issues identified throughout the previous year?		
Is there a way for workers to obtain necessary ergonomic equipment for the home? (Patient)		
Is there a bloodborne pathogens plan and is it updated annually?		
Are workers part of the selection process for needles?		
Are workers taught how to identify latex allergies? (what are the symptoms of)		
Are non-latex gloves available?		
Are workers taught how to identify stressors?		
Are workers taught how to deal with stress?		
Do workers have access to an employee assistance plan or other means of dealing with their stress?		
Is there a no weapons policy for patient homes?		
If there is not a policy prohibiting weapons in the home, is there a policy requiring weapons to be disabled and locked up before the worker arrives?		
Have employees been taught to recognize illegal drug activity?		
Are workers taught how to recognize violent or aggressive behavior and how to diffuse an angry patient?		
Is the location of a new patient researched to determine local crime statistics?		
Are workers taught what to do if they feel uncomfortable about a patient's community, or if they believe that they are in danger? (e.g. leave)		
Is there an animal control policy requiring animals to be restrained?		
Do workers know how to identify verbal abuse and what to do about it?		
Do workers know how to deal with threatening weather?		