Occupational Health & Safety Compliance in NURSING HOMES

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This article examines the state of safety in nursing homes and summarizes the findings of inspections conducted at eight facilities under OSHA's site-specific targeting program. Incidence rates for nursing homes were analyzed for severity and trends, and compared with rates for private industry and other healthcare facilities. Events that affect incidence rates were also evaluated. Bureau of Labor Statistics data indicate that back injuries account for approximately half of all reported injuries and illnesses in nursing homes. Combined with the findings of these inspections, this highlights the need for nursing home facilities to develop effective resident handling programs, as well as comprehensive safety and health programs that include management commitment and employee participation, workplace analysis, accident and record analysis, hazard prevention and control, administrative controls, work practice controls, medical management, and safety and health training.

Among employees in the healthcare industry, incidence rates for occupational injuries and illnesses in general, and back injuries in particular, exceed the average rate in all private industry (BLS 1991-1998). This article reviews relevant statistics from hospitals and nursing homes and compares them to those of private industry.

Through its site-specific targeting (SST) program, OSHA collected establishment-specific injury and illness data from approximately 80,000 employers in manufacturing and certain other industries for calendar year 1998. Initially, this data was used to target specific employers with lost workday injury and illness (LWDII) rates above 14.0 (OSHA CPL 2); it was later expanded to include hospitals and nursing homes due to their high rates of injury and illnesses. The national average LWDII for nursing homes and hospitals for 1998 was 8.1 and 3.8, respectively, compared to 3.1 for private industry.

Back injuries account for approximately half of all the reported injuries and illnesses in the healthcare industry (BLS 1991-1998). Many of these injuries are preventable and can be controlled by implementing engineering controls, work practices and administrative controls. The inspections conducted at these eight nursing homes indicated that many back injuries could have been prevented had assist devices been provided and used for resident handling; this conclusion supports Garg's findings (Garg 94). Based on this evidence, a resident handling program that features employee participation and training is essential.

In addition, under OSHA's Occupational Exposure to Bloodborne Pathogens Standard (29 CFR 1910.1030), nursing homes must establish and implement exposure control plans to protect employees from bloodborne pathogen hazards. Thus, a comprehensive safety and health program may be needed in order to prevent workplace accidents and ensure compliance with consensus industry practice.

KEY STATISTICS

As noted, both nursing home facilities within standard industrial classification (SIC) code 805 (Nursing and Personal Care Facilities) and hospitals within SIC code 806 have been recognized as high-hazard industries; based on their LWDII, many were targeted for inspection through OSHA's SST program. Table 1 presents the nonfatal occupational injury and illness incidence rates (total cases) per 100 full-time workers for nursing homes and hospitals compared to national average rates; Table 2 presents incidence rates for lost-workday cases.

Nearly half of the injuries that result in lost worktime in these facilities are caused by overexertion, which typically occurs when lifting and transferring residents and patients. Table 3 lists the most-frequent events and incidence rates associated with these events per 10,000 equivalent full-time employees in nursing homes.

OTHER REGULATIONS & REQUIREMENTS

Dept. of Health and Human Services

All facilities inspected in this study fall under the jurisdiction of the U.S. Dept. of Health and Human Services, Health Care Financing Administration (HCFA). While OSHA standards focus on employee safety and health, HCFA regulations ensure healthcare security for beneficiaries (nursing home residents). The agency conducts surveys to assess provisions necessary for resident safety and other resident rights.

Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

This commission is a private organization that develops standards intended to support performance improvement in healthcare facilities. Its mission is to help healthcare organizations deliver better-quality care, provide professional consultation and enhance staff education. JCAHO conducts surveys and accredits those facilities that demonstrate compliance with established standards. None of the nursing homes inspected had applied for JCAHO accreditation, although one facility was contemplating application.

INSPECTION PROCEDURE

Each facility received a combined safety and health inspection conducted by an industrial hygienist and a safety engineer. Upon entry into each facility, the following documents were requested and reviewed:

1) Recordkeeping for the current year and previous three years. This included OSHA injuries and illnesses records (200 log); and reports of injury or illness (OSHA 101 or equivalent). LWDII rates were calculated using the facility's workhours.

2) Safety and health program.

3) HazCom program including MSDS.

4) Evacuation plan.

5) Lockout/tagout program.

6) Exposure control plan and bloodborne pathogens training records.

7) Needlestick injury records or first-aid records when available.

8) Hepatitis B vaccination records for all workers with occupational exposure.

9) Resident handling program.

10) Workplace violence program.

Inspections were comprehensive and assessed the entire facility with emphasis on: 1) resident handling; 2) bloodborne pathogens; 3) tuberculosis (TB) control; and 4) workplace violence.

Employees, specifically nurses aides, were interviewed to assess: 1) teamwork; 2) availability of assist devices (lifts); 3) use of lifts for resident transfer; 4) use of other types of assist devices such as gait belts; 5) bloodborne pathogens training; 6) provision and offering of hepatitis B vaccination for employees who elected to receive the vaccine; 7) provision of the vaccine at no cost to workers; 8) provision of a written opinion from a physician or licensed healthcare professional after the initial evaluation for vaccination; 9) needlestick injuries; 10) latex allergy; 11) hazard communication training; and 12) requirements for PPE, its availability and use.

INSPECTION OBSERVATIONS & DISCUSSION

Resident Handling

Although all facilities inspected were using one or more lifting devices, some did not provide an adequate number of them or did not have an adequate supply of slings for them. However, one facility had implemented a "no vertical lift" protocol; as a result, it had virtually eliminated all back injuries associated with resident handling. This protocol required that lifts be used to transfer all "totally dependent" residents who could not bear weight.

Employees at this facility also had access to at least one stand-type device for use with residents who could stand with assistance but could not walk, and one total-assist device for residents who required total care (non-weight-bearing and totally dependent residents). Employees had been trained and were competent to use these devices.

Work-related back injuries were prevalent among employees in all facilities inspected. Table 4 presents severity rates for these injuries. Based on this data, nurses aides apparently were more susceptible than other employees to back injuries that resulted in lost worktime. It should be noted that in most cases, resident transfer activities were conducted by nurses aides.

To address this problem, employers must implement a comprehensive back injury prevention program (Fragala 47-55). This program must be site-specific and should encompass:

- management commitment and employee participation;
- workplace analysis;

•accident and record analysis;
•hazard prevention and control;
•assist devices;
•work practices and administrative controls;
•medical management;
•safety and health training.

In addition, patient handling or transfer procedures must be developed at each facility, and employees trained—both classroom and hands-on—in order to gain competency in these procedures. Key transfer procedures that should be covered include bed-to-chair; chair-to-chair/commode/wheelchair/gerichair; bed-to-stretcher; and moving a patient up in bed. In addition, procedures must be developed and implemented for the use of transfer belts and mechanical lifts.

TABLE 1
Incidence Rates for All Recordable Occupational Injuries & Illnesses*

Year	1991	1992	1993	1994	1995	1996	1997	1998
Nursing Homes (SIC 805)	15.3	18.6	17.3	16.8	18.2	16.5	16.2	14.2
Hospitals (SIC 806)	11.5	12.0	11.8	11.4	10.1	11.0	10.0	9.2
Private Industry	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7

*Calculated from:
Total (All Recordable) Incidence Rate = (No. of Recordable Cases)(200,000 Hours) / Total No. of Hours Worked Per Year

Note: A recordable injury/illness case involves a loss of consciousness, restriction of work motion, transfer to another job or medical treatment beyond first aid.

TABLE 2
Incidence Rates for Occupational Injuries & Illnesses with Lost Workday*

Year	1991	1992	1993	1994	1995	1996	1997	1998
Nursing Homes (SIC 805)	8.7	9.3	8.9	8.4	8.8	8.3	8.8	8.1
Hospitals (SIC 806)	4.3	4.3	4.4	4.1	4.1	4.1	4.0	3.8
Private Industry	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1

*Calculated from:
Lost Workday Injury and Illness (LWDII) Rate =
(No. of Cases with Lost-Workday Injuries and Illnesses Combined)(200,000 Hours) / Total No. of Hours Worked Per Year

TABLE 3
Incidence Rates Per 10,000 Equivalent Full-Time Employees in Nursing Homes & Hospitals with Lost-Worktime Injuries: 1997*

EVENT	RATE IN NURSING HOMES	RATE IN HOSPITALS
Overexertion	273.7	124.8
Slip/Trip/Fall	91.3	50.0
Contact with Objects	56.2	39.3
Assaults/Violent Acts	34.9	18.1
Harmful Substances/Environment	19.2	14.6
Repetitive Motion	5.2	6.9
Transportation Accident	3.5	4.7
Fires	0	0.2
Other	45.0	33.4
TOTAL	529.7	291.7

*Calculated from:
Lost-Workday Injuries for 10,000 Equivalent Full-Time Employee Rate =
(No. of Cases with Lost-Workday Injuries)(200,000 Hours)(100) / Total No. of Hours Worked Per Year

Note: Lost worktime is same as lost workdays.

Bloodborne Pathogens

Generally, inspected facilities had written exposure control plans. However, several deficiencies were noted. For example, some facilities had not offered the hepatitis B vaccine to all exposed employees and/or had not offered it within 10 working days of their initial employment. In addition, in some cases, the vaccine was provided by an offsite contractor; this meant employees had to travel to the offsite facility on their own time, which caused many to remain unvaccinated. This runs counter to 29 CFR 1910.1030, which requires that the vaccine be provided at no cost and at a reasonable time and place (during workhours).

The current compliance directive for bloodborne pathogens (CPL 2-2.44D) requires the employer to evaluate, consider and implement appropriate, commercially available and effective engineering controls, including safer needle devices (16-20). In addition, this directive incorporates the most-recent Centers for Disease Control and Prevention (CDC) recommendations for the prevention and control of hepatitis C virus; post-exposure prophylaxis for human immunodeficiency virus; and hepatitis B immunization of healthcare workers. However, at the time of these inspections, this directive was not in effect; the only needleless systems found were used for accessing intravenous lines.

Tuberculosis

None of the facilities inspected had reported a case of active TB, which validates the community TB profile that shows low incidence rates; in addition, the facilities inspected were classified as very low risk for TB (CDC 10). Nevertheless, all facilities were made aware of CDC's 1994 "Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Healthcare Facilities."

In addition, employees and residents were provided with initial TB screening using the purified protein derivative (PPD) tuberculin test. Since no facilities featured a negative-pressure TB isolation room, they were advised to develop a plan whereby patients with confirmed or suspected TB would be transferred to a collaborating site equipped with the proper facilities.

Workplace Violence

Employees who care for incoherent, combative or behaviorally challenged residents were exposed to injuries caused by violent acts. Based on the inspections at these eight facilities, it was concluded that employees lacked training on how to recognize patients with violent tendencies

TABLE 4
Severity Rates*

FACILITY NO.	Severity for All Employees	Severity for Nurses Aides
1	416	704
2	360	839
3	281	1,251
4	250	374
5	189	252
6	76	156
7	36	27
8	8	14

Based on this data, nurses aides apparently were more susceptible than other employees to back injuries resulting in lost worktime. It should be noted that in most cases, resident transfer activities were conducted by nurses aides.

*Severity =

$$\frac{\text{(No. of Lost Workdays for Back Injuries)(200,000 Hours)}}{\text{Total No. of Hours Worked Per Year}}$$

TABLE 5
Most-Frequently Cited Standards

STANDARD	DESCRIPTION	% OF FACILITIES CITED (8 FACILITIES = 100%)
1910.151(c)	Eyewash facilities	100
1904	Recordkeeping	100
1910.1030(f)(2)(i)	Hepatitis B vaccine not offered	87
1910.1030(f)(5)	Healthcare professional written opinion	87
1910.303(f)	Electrical control panel directory (labeled)	87
1910.1030(d)(3)(iii)	Non-latex powderless gloves not readily accessible	62
1910.1030(f)(1)(ii)(b)	Hepatitis B vaccination not offered during work hours	62
1910.132(a)	Personal protective equipment	62
1910.38(a)(2)	Emergency evacuation plan	62
1910.1030(c)(1)(iv)	Annual review of the exposure control plan	50

and how to prevent resulting injuries. As a result, employers were advised to implement a program to control workplace violence and train workers to recognize and prevent violent acts (OSHA 1-9).

One facility had a padded seclusion room designed for the safe viewing and care of occupants. The room was used for temporary placement of patients with violent tendencies (to self or others). It was recommended that the facility develop a written policy to clarify procedures on the proper use of this room, and that this policy be communicated to all personnel.

CONCLUSION

None of the facilities inspected was in complete compliance with OSHA standards. Several violations were documented and multiple citations issued to each facility (Table 5).

Employees of nursing home facilities are exposed to a broad spectrum of hazards. The most-obvious is improper resident handling, which can result in back injuries. These and other musculoskeletal injuries associated with resident handling can be prevented by implementing a sound handling program that stresses the use of assist devices, coupled with quality employee training. Other hazards, such as exposure to biological and chemical hazards, can be mitigated by implementing a sound safety and health program that encompasses periodic self-inspection to identify and address deficiencies. ■

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