Nursing home aides experience increase in serious injuries

Physically impaired and socially isolated, many residents of nursing homes greatly depend on nursing aides and other employees; in providing care the workers themselves incur disabling injuries, often to the back

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"Old age, though despised,
is coveted by all."
—From H.G. Bohn's
A Handbook of Proverbs (1855)

As the proverb implies, living longer can be a mixed blessing, especially for those so chronically ill or frail that they require round-the-clock assistance with the basic functions of daily living. Absent alternative care, many of these dependent elderly become residents of nursing and personal care facilities, where their physically demanding needs are both a challenge and a hazard to nursing aides and other caregivers.[1] In recent years, such circumstances have led to nursing home employees sustaining, with increasing frequency, serious workplace injuries.

This article—covering private nursing homes[2]—is the first in a Bureau of Labor Statistics series focusing on "high-impact" industries, defined as those with the largest numbers of workplace injuries and illnesses, although not necessarily the highest incidence *rates*.[3] According to a 1988 BLS survey, nursing homes—with 151,000 cases—ranked sixth behind eating and drinking places, grocery stores, hospitals, motor vehicle manufacturing, and trucking in total recordable injuries and illnesses. Only nine industries, the survey shows, reported at least 100,000 cases that year. (See table 1.) These industries, however, accounted for one-fourth of the 6.4 million cases reported nationwide in 1988. Clearly, if industries with high case counts become safer, more healthful workplaces, then the national figures will reflect these gains in addition to those stemming from improved working conditions in "high-rate" industries.

While nursing homes did not rank among "high-rate" industries, the industry's incidence rate of 15.0 workplace injuries and illnesses per 100 full-time workers was well above that for private industry as a whole (8.6), for hospitals (8.7), and for all health services (7.3) in 1988.[4] And, as is evident from chart 1, the year 1988 marked the sixth consecutive annual increase in nursing home rates—one indication of the industry's persistent safety and health problem.

Through the years, the severity of accidents in nursing homes has disrupted day-to-day work schedules. In 1988, for example, a clear majority of the industry's injuries were serious enough to require workers to take time off from work or to be restricted in work activity.[5] Many of these disabling injuries took the form of back sprains and other strains incurred by female employees (primarily nursing aides) who were lifting or otherwise assisting residents in their care. As often as not, the injured employee had relatively short tenure (1 year or less) in the nursing home at the time of the accident.[6] The following sections examine some characteristics of nurs-

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Table 1. **Industry groups with largest number of occupational injuries and illnesses, 1988**

Industry group	SIC code[1]	Employment (thousands)	Injuries and illnesses	
			Total cases (thousands)	Total case rate[2]
Private industry[3]	—	88,698.8	6,438.6	8.6
Eating and drinking places	581	6,281.8	352.1	8.8
Grocery stores	541	2,742.1	237.9	12.2
Hospitals	806	3,300.2	233.0	8.7
Motor vehicle manufacturing	371	856.5	200.4	23.3
Trucking[4]	421	1,454.9	192.9	13.9
Nursing homes	805	1,318.6	151.1	15.0
Department stores	531	2,038.9	146.0	10.5
Hotels and motels	701	1,503.6	120.7	10.5
Meat products manufacturing	201	401.8	110.0	27.9

[1] *Standard Industrial Classification Manual*, 1972 edition, 1977 supplement.

[2] Rates per 100 full-time workers. See footnote 4 to text for method of calculation.

[3] Excludes farms with fewer than 11 employees.

[4] Employment estimate for local and long-distance trucking also includes a few thousand workers in trucking terminal facilities (industry number 423). Safety and health data, however, relate to industry number 421 only.

NOTE: The nine groups shown here are the only "3-digit" industries reporting at least 100,000 injury and illness cases in 1988.

ing homes and, for purposes of comparison, a few features of hospitals; analyze the injury and illness record of nursing homes in more detail; and summarize ongoing efforts to improve working conditions in these homes.

The industry at a glance

Nursing homes primarily provide inpatient nursing and health-related personal care. Such homes differ from residential care facilities, such as homes for the aged, in that they typically provide health care services delivered or supervised by registered or licensed nurses.[7] The National Center for Health Statistics estimated some 19,000 nursing homes provided care for about 1.5 million residents in 1985, about nine-tenths of whom were 65 years or older.[8] Interestingly, the 600,000 oldest residents (at least 85 years of age) constituted one-fifth of the Nation's population in that age group.

Certain characteristics of residents, as reported in the comprehensive Federal study,[9] help explain why their care poses special problems for nursing home employees. Residents typically are: very old (median age, 82), mentally disoriented, and functionally dependent in several activities of daily living (such as getting in and out of bed or chair, bathing, and using the toilet). Moreover, immediately preceding admission to the present nursing home, most residents required medical or other nursing care at hospitals or other health facilities.

Although designated as health care facilities, nursing homes have obvious limits to the kinds of medical services they provide. Often, such facilities are staffed to monitor and treat chronic health conditions of the elderly, as by administering prescribed drugs and catheterization to help with urinary incontinence.[10] For acute episodes of illness (such as infection or anatomic obstruction), however, nursing homes temporarily transfer residents to hospitals which provide diagnostic services and extensive medical treatment (surgery, for example) in addition to continuous nursing services.[11] Some nursing homes and hospitals, in fact, have reciprocal arrangements to cover the appropriate health care needs of their patients.

Reflecting their unique health care roles, nursing homes and hospitals differ markedly in their characteristics. Unlike hospitals, a large majority of private nursing homes are proprietary (operated for profit) institutions;[12] and, they operate with smaller work forces (typically 20 to 250 full-time and part-time workers) than do hospitals (commonly employing a minimum staff of 250).[13] But more to the point of this article, it is differences in patient care needs and work responsibilities, especially for nursing jobs, that account for much of the difference in nursing home injury and illness rates (15.0 per 100 full-time workers in nursing homes and 8.7 in hospitals).

In contrast to hospital services, the nature of patient care in nursing homes calls for substantially more nursing aides than licensed or registered nurses. Traditionally, aides in nursing homes are responsible for almost all of the heavy lifting and other "bed-and-body work"

often required in caring for those incapacitated. Many hospital services, in contrast, are provided on an outpatient basis, thereby reducing the need for inpatient personal care and its attendant hazards to nursing personnel. The following tabulation further reinforces how differences in patient care requirements can lead to contrasting staffing patterns for the two industries:[14]

	Percent of work force	
	Nursing homes	Hospitals
All occupations	100	100
Nursing aide and attendant	42	7
Licensed practical nurse	10	7
Registered nurse	7	24
Clerical and administrative support	4	17
All other	37	46

To summarize, nursing aide, by far the most numerous job in nursing homes, is a "high-risk" occupation.[15] Thus, it is not surprising that nursing homes have the highest injury rates of all health services industries.[16]

Safety and health measures

As part of its annual survey of occupational injuries and illnesses, the Bureau of Labor Statistics expanded coverage of the service-producing sector in 1980 by developing separate estimates for nursing homes, hospitals, and many other fast-growing industries.[17] Since then, the Bureau's basic measure of workplace safety and health—its injury and illness incidence rate for all recordable cases—has risen somewhat for health services in general but has climbed sharply for nursing homes in particular. The following tabulation illustrates this point, using total case rates per 100 full-time workers:

	1980	1984	1988
Health services	6.4	6.3	7.3
Nursing homes	10.7	11.6	15.0

The 1988 incidence rate for nursing homes was 40 percent higher than the 1980 rate; this compares with a 1980–88 increase of 15 percent for all health services. In sum, nursing homes remain a hazardous workplace setting, with an injury and illness rate double that for all health services.

Other Bureau measures that gauge the *severity* of workplace incidents consistently show that lost worktime incidents are a serious problem in nursing homes. (See appendix for definitions.) In 1988, such disabling incidents accounted for nearly three-fifths of the industry's cases (about 88,000 out of 151,000 injuries and illnesses). This translates into 8.7 lost workday cases per 100 full-time workers, double the private industry average. When seriously injured that year, nursing home workers were away from their regular job, on average, 21 days per case; this was 2 days higher than the private sector's figure for average number of lost workdays per case.

Between 1980 and 1988, the lost worktime problem had worsened in nursing homes. The following tabulation tracks the industry's upward trend over that period:

	1980	1984	1988
Lost workday case rate	5.6	6.5	8.7
Lost workdays rate	85.5	121.3	180.6
Average lost workdays per case	15	19	21

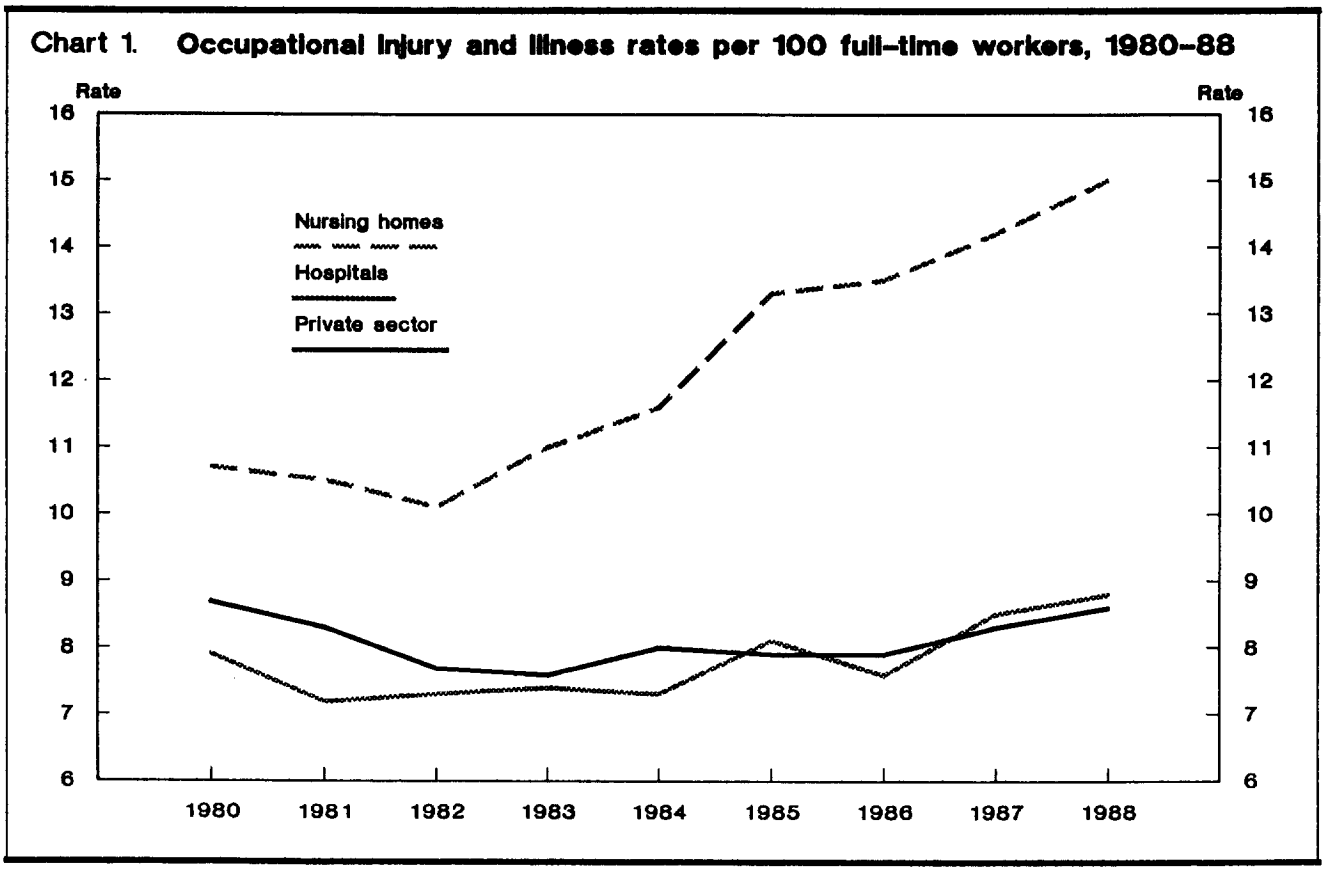
Of special note in nursing homes, the number of lost workdays per 100 full-time workers doubled between 1980 and 1988, as the frequency and duration of such cases increased sharply.

Injury and illness characteristics

The Bureau's annual survey identifies industries with high case counts or high case rates, but it does not provide information about characteristics of the occupational injuries and illnesses. Such information is available, to some extent, from another Bureau program—the Supplementary Data System (SDS)—based on the State workers' compensation systems. Unlike the annual survey, the SDS does not produce nationwide estimates and lacks a uniform treatment among States of what is a compensable workplace injury or illness.[18] However, despite several analytical and statistical limitations, the SDS does help in spotting general patterns (or a lack thereof) in the characteristics of work-related injuries and illnesses involving lost worktime.

In 1987, nearly 31,000 current cases in private nursing homes were reported to 24 State agencies and the Virgin Islands, the participants in the SDS program that year. (Current cases are injuries or illnesses which involved at least 1 lost workday and which either occurred in 1987 or were reported to the State agencies that year.[19]) Separate analysis of nursing home cases and of all SDS cases in the private sector points up several similarities and differences in case characteristics. (Such comparisons, however, are subject to the same types of limitations previously ascribed to the SDS.)

In terms of principal physical characteristics, sprain and strain is, by far, the leading category



under *nature of injury or illness,* constituting seven-tenths of the SDS-recorded cases in nursing homes and two-fifths of those in all private industry. A second injury characteristic is the *part of the body affected,* most often the back and other portions of the trunk (abdomen, shoulder, and so on). Injuries to the trunk were slightly more than one-half of all nursing home cases and about one-third of the private sector total. Taken together, the "nature/part" category of *back sprain* was two-fifths of all SDS cases in nursing homes, double the corresponding proportion for private industry as a whole. No other injury cross-classification of this type, such as ankle sprain or serious finger cut, was as much as one-tenth of either case total.

Ironically, the major *source of injury and illness* in nursing homes is the resident, whom the employee was trying to help. The official SDS classification "person, other than injured" accounted for slightly more than one-half of all nursing home cases; this source was uncommon outside of health services industries. The leading *type of accident or exposure* was overexertion (primarily while lifting), constituting three-fifths of the nursing home cases and one-third of the private sector case total. Cross-tabulating source and type, the category *overexertion while caring for residents* best describes the injury-producing event for one-half of the nursing home case total. An additional one-eighth of the cases were classified as *falls to a floor or other working surface,* in line with the corresponding figure for the private sector.

Predictably, nursing aide was the dominant *occupation* of the injured or ill worker, accounting for about seven-tenths of the SDS-recorded cases in nursing homes. Compared with their two-fifths share of the industry's work force, nursing aides clearly are a disproportionate share of the total nursing home cases. In contrast, licensed and registered nurses, taken together, are about one-sixth of employment but about one-twentieth of SDS-recorded cases in nursing homes. A variety of service occupations, including cooks, janitors, laundry workers, and maids, accounted for most of the industry's other recorded cases.

Not unexpectedly, nurses and aides sustained back injuries with greater frequency than did other nursing home workers. The following tabulation points up the variations in part of the body affected by injury or illness for three nursing jobs (nursing aide, licensed nurse, and registered nurse) compared with all other nursing home jobs.

	Three nursing jobs	All other jobs
All body parts (percent)	100	100
Trunk	61	38
Back	46	27
Legs and lower extremities	11	17
Arms and upper extremities	12	24
All other parts	16	22

Other SDS data also highlight the somewhat unusual characteristics of nursing home workers. They show that nine-tenths of the injured were women workers and that, at the time of their accident, slightly more than one-half of the injured had worked 1 year or less in the nursing facility.[20] In contrast, a clear majority of injured hospital workers had been employed at least 3 years.

Previous research has shown that short tenure and high labor turnover—characteristics common to nursing aides in nursing homes—are correlated with occupational safety and health problems.[21] Comparatively low pay, especially for nursing aides, contributes, in part, to the turnover problem in nursing homes. Based on two dozen large metropolitan areas studied, the Bureau of Labor Statistics reported that full-time nursing aides in nursing homes commonly averaged between $4 and $5 per hour in the fall of 1985; pay levels for their hospital counterparts, in contrast, usually were at least 40 percent higher.[22]

Accident prevention

During the 1980's, the issue of stress-related injuries in nursing homes and other health care facilities has drawn international attention.[23] In this country, the National Institute for Occupational Safety and Health continues to conduct and sponsor high-priority research and feasibility studies on how to reduce musculoskeletal injuries resulting from load handling and related activities in health care settings. Illustrative of this research, a brief description of the patient-handling problem facing nursing personnel in nursing homes follows.

Heavy lifting and other manual exertions associated with patient handling are difficult to execute safely in nursing homes, in part because the recommended lifting techniques for objects and materials (bent knees and load close to body, for example) often are impractical to apply when singlehandedly lifting unstable residents. One possible solution—getting assistance from a second employee—is encouraged in spirit and, to some extent, in practice; but, to provide two-employee lifting on a large scale would be considered too expensive by many nursing homes.

Another potential approach to reducing back sprains and related injuries in health-care settings is the use of patient-handling devices. A recent study of 120 nursing homes in Wisconsin found that certain mechanical devices, such as gait belts fitted on residents, were used very often for transferring patients and generally had received endorsements from nursing staff.[24] A subsequent study identified the 10 most back-stressing tasks of nursing aides;[25] then, in a laboratory setting, these researchers found that pulling/pushing patients using assistive mechanical devices can effectively eliminate the more stressful activity of patient lifting for all 10 of these tasks.[26] Ergonomic avenues such as these attempt to reshape the job to fit the worker.

Besides accidents related to the physically demanding tasks of resident care, nursing and other personnel incurred other disabling injuries and illnesses that are clearly preventable. Exposure to temperature extremes and contact with caustic agents or biological contaminants, for example, often can be avoided by improved ventilation, proper use of personal protective equipment, and better communication to employees of hazardous conditions and substances. Some government standards specifically address these types of workplace safety and health problems.[27]

On a somewhat optimistic note, a recently enacted Federal law upgrades staff requirements in nursing homes certified by medicare or medicaid. The law mandates that by 1990 such homes provide for *licensed* nursing services during all hours and that nursing aides complete at least 75 hours training in nurses' skills and residents' rights.[28] While primarily directed at the quality of care for nursing home residents, the new law also draws attention to the nursing aide—the pivotal job in delivering enhanced resident care. To supplement this law, though, nursing homes still need a plan for training nursing aides and others in the most promising of the job safety techniques and devices currently under study. □

Footnotes

[1] Many research works have drawn attention to quality-of-life issues for the institutionalized elderly. See, for example, *Technology and Aging in America*, OTA-BA-264 (Washington, U.S. Congress, Office of Technology Assessment, 1985); and National Research Council, *The Aging Population in the Twenty-First Century: Statistics for*