Profiles in safety and health: occupational hazards of meatpacking

Injury and illness rates in manufacturing are above the average for the total economy; within the manufacturing sector, some individual industry rates, such as those in meatpacking, are two to three times the all-manufacturing average

MARTIN E. PERSONICK AND
KATHERINE TAYLOR-SHIRLEY

"Luck's a chance, but trouble's sure
I'd face it as a wise man would,
And train for ill and not for good."
——Alfred Edward Housman
A Shropshire Lad (1896)

As in Housman's day, some still point to "luck and chance" as culturally acceptable explanations of accidents. But, few view injuries and illnesses in the workplace in that way—namely, as inevitably beyond human control and influence. Unlike "natural" disasters, most types of industrial accidents and occupational diseases now are considered preventable—through classroom and on-the-job training and by following safety and health standards and procedures prescribed by government, industry, and labor. Safeguards on machines and equipment, for example, and scientifically established limits on exposure levels for hazardous substances, when implemented, have helped to control the proliferation of accidents and disease in the workplace.

Despite these improvements, a 1986 Bureau of Labor Statistics survey found some 3,600 work-related fatalities and 5.6 million occupational injuries and illnesses among the 83 million private sector workers covered by the survey. Fully one-third of the injuries and illnesses occurred in manufacturing industries —a sector employing slightly more than one-fifth of the survey's total work force. This article—covering the meatpacking industry—is the first in a BLS series focusing on specific industries experiencing a high incidence of injuries and illnesses.

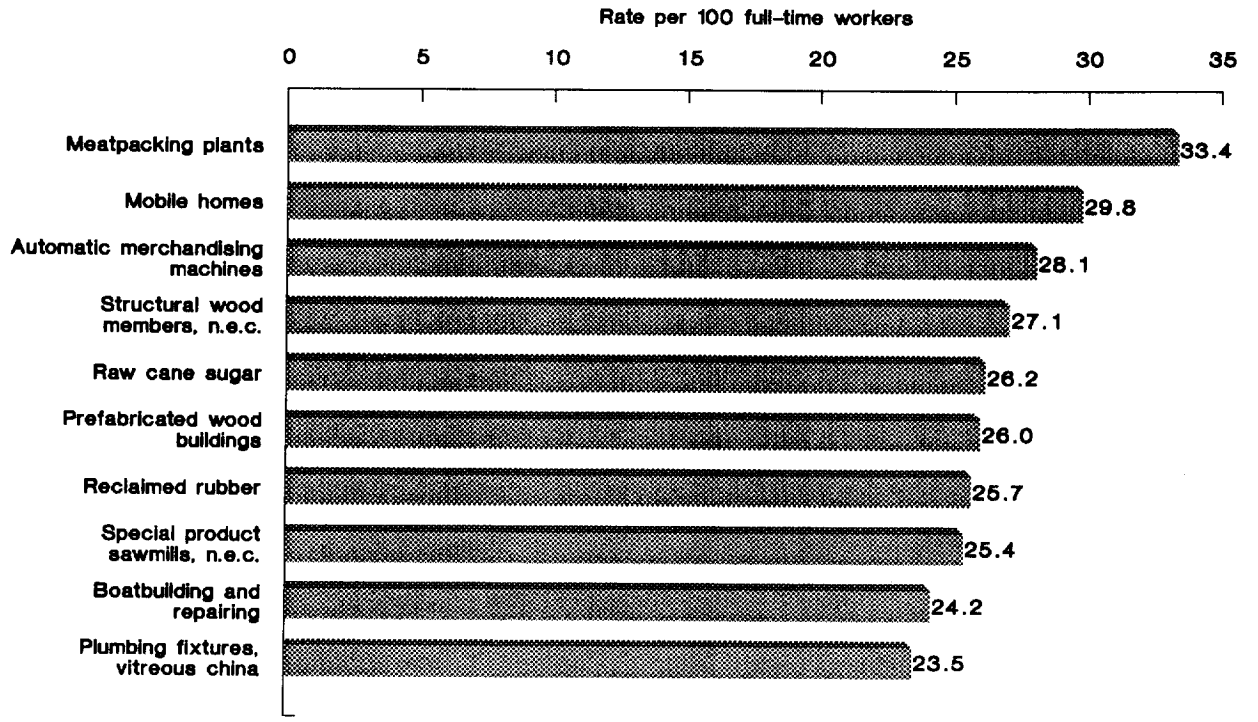
High-risk industries

Historically, safety and health risks associated with manufacturing processes have been higher than those for the total private sector. Reflecting this, job-related injuries and illnesses occurred at the rate of 10.6 per 100 full-time workers in manufacturing industries, compared with 7.9 for the total private sector during 1986.[1] (See appendix for work injury definitions used in the Bureau of Labor Statistics survey of this subject.) Moreover, there is considerable range among manufacturing industries, with some individual industry rates two to three times as high as the all-manufacturing average.

Charts 1 and 2 array such high-risk manufacturing industries according to two different, but related, criteria: (1) the incidence rate for all recordable injuries and illnesses, and (2) the incidence rate for injuries severe enough to require workers to take time off from work or

Martin E. Personick is an economist in the Division of Safety and Health Statistics, Bureau of Labor Statistics. Katherine Taylor-Shirley, an economist in the same division, prepared the data and analysis included from the Supplementary Data System.

Chart 1. Injury and illness incidence rates, total cases, high-risk manufacturing industries, 1986 BLS Annual Survey



n.e.c. = not elsewhere classified.

Chart 2. Incidence rates of injuries reported as lost workday cases, high-risk manufacturing industries, 1986 BLS Annual Survey

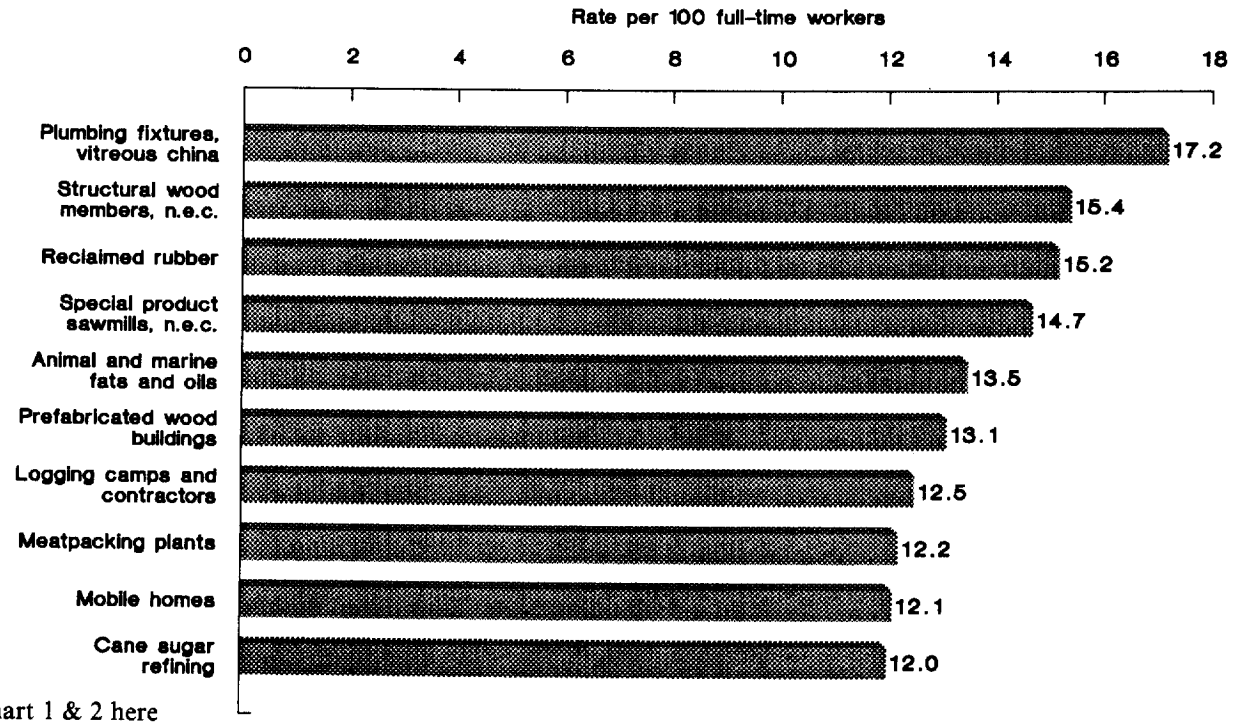


chart 1 & 2 here

n.e.c. = not elsewhere classified.

to be restricted in work activity.[2] Seven industries appear on both arrays of the 10 high-risk industries in 1986.

Their order, however, varies by the criterion used. For example, meatpacking plants rank first, and vitreous china plumbing fixtures, tenth, for industry incidence rates of injuries and illnesses (chart 1); their rankings are nearly reversed (eighth and first) using only injury rates for lost workday cases (chart 2). By way of partial explanation, 75 percent of all injuries in plumbing fixtures result in lost worktime, compared with 45 percent of injuries in meatpacking. And, as noted later in this article, the incidence of illnesses, apart from injuries, is much higher in meatpacking than in other high-risk industries.

The Bureau's annual survey identifies high-risk industries but does not provide information about the characteristics of their occupational injuries and illnesses.[3] Such information is available, to some extent, from another Bureau program—the Supplementary Data System (SDS), which covered 23 States in 1985. The SDS extracts information from "first reports of injury and illness" submitted by employers and insurance carriers to State workers' compensation agencies.

Unlike the annual survey, the SDS does not produce nationwide estimates and lacks a uniform treatment among States of what is a recordable workplace injury or illness.[4] However, despite several analytical and statistical limitations, the SDS does help in spotting general patterns (or lack thereof) in the demographics and case characteristics of work-related injuries and illnesses. It shows, for example, that overexertion is one of the leading types of accidents in almost all industries, while a variety of objects and substances—wood, metal, and boxes, to name a few—are major sources of injuries and illnesses, depending on the industry examined.

Meatpacking plants

Through the years, several hazardous work activities have been associated with slaughtering and processing cattle and hogs. These include the extensive use of knives and other hand tools, manual lifting and lugging of meat, the need for continuous refrigeration systems, and the pervasiveness of slippery floors.[5] The following sections look at the safety and health record of the meatpacking industry, relate that record to certain industry characteristics—its staffing and work requirements, for example—and summarize industry plans to improve working conditions.

Safety and health measures. Meatpacking plants remain among the most hazardous workplaces. At 33.4 per 100 full-time workers, the 1986 incidence rate for injuries and illnesses in meatpacking was triple that for manufacturing as a whole (10.6) and quadruple that for the private sector (7.9). (See table 1.)

Over a recent 10-year period, injury and illness rates generally trended lower, but the improvement was relatively small for meatpacking. Table 1 shows that the industry's 1982–86 average rate (31.9 per 100 full-time workers) was 6 percent lower than its 1977–81 rate (33.9); this compares with corresponding declines of 13 percent for the private sector and 18 percent for manufacturing.

Table 1. Occupational injury and illness rates, 1977–86, BLS Annual Surveys

Year	Incidence rates per 100 full-time workers[1]					
	Private sector		Manufacturing		Meatpacking plants	
	Injuries and illnesses	Injuries only	Injuries and illnesses	Injuries only	Injuries and illnesses	Injuries only
1977	9.3	9.0	13.1	12.6	33.6	31.5
1978	9.4	9.2	13.2	12.8	32.8	30.6
1979	9.5	9.2	13.3	12.8	36.9	34.2
1980	8.7	8.5	12.2	11.8	33.5	31.0
1981	8.3	8.1	11.5	11.1	32.8	29.7
1982	7.7	7.6	10.2	9.9	30.7	27.7
1983	7.6	7.5	10.0	9.7	31.4	27.4
1984	8.0	7.8	10.6	10.2	33.4	29.0
1985	7.9	7.7	10.4	10.0	30.4	26.3
1986	7.9	7.7	10.6	10.2	33.4	27.0
Annual average:						
1977–81	9.0	8.8	12.7	12.2	33.9	31.4
1982–86	7.9	7.7	10.4	10.0	31.9	27.5

[1] See footnote 1 to text for method of calculation.

In recent years, a sharp rise in recorded illnesses in meatpacking pushed up the industry's overall incidence rate. The following tabulation illustrates this point by contrasting trends in the illness and the injury incidence rates per 100 full-time workers:

	Annual average	
	1977–81	*1982–86*
Private sector:		
Illness	0.2	0.2
Injury	8.8	7.7
Manufacturing:		
Illness	.4	.4
Injury	12.2	10.0
Meatpacking plants:		
Illness	2.5	4.4
Injury	31.4	27.5

Looked at another way, recorded cases of illnesses averaged 14 percent of total injuries and illnesses in meatpacking in the 1982–86 period, double the industry's 1977–81 ratio.

Among major categories of illnesses studied separately, disorders associated with repeated motion, vibration, or pressure were by far the most significant for manufacturing in general and for meatpacking in particular. (See table 2.) In meatpacking, repeated trauma commonly takes the form of carpal tunnel syndrome, a condition in which the nerve passing through the wrist to the hand is pinched and compressed because of fast, repeated, forceful motions. A forthcoming BLS study will show that meatpacking plants have the highest rates of repeated trauma disorders—164 per 10,000 full-time workers in 1979, climbing to 322 in 1985, then jumping to 479 in 1986.[6] Undoubtedly, some of

the increase stems from greater recognition of these disorders as work-related illnesses.

Injury rates in meatpacking, in contrast to illness rates, declined by 12 percent, from an average of 31.4 in 1977–81 to 27.5 per 100 full-time workers in 1982–86. The improvement was in line with that for the private sector but somewhat less than the 18-percent drop in manufacturing injury rates between the two time spans. (See table 1.) Injuries in meatpacking were about evenly divided between those resulting in days away from work or restricted work activity and nonfatal cases without lost workdays. The incidence rates for both types of cases dropped by similar magnitudes between 1977–81 and 1982–86. (See table 3.)

Measures for gauging the severity of job-related injuries in meatpacking recorded mixed results over the 10-year span under study. While the incidence rates for lost workday cases were down, the average number of days lost per lost workday case rose, from 13 in the 1977–81 period to 15 in 1982–86. For manufacturing as a whole, average days lost increased by 1 day, to 17 in 1982–86.

Injury and illness characteristics. The Bureau's Supplementary Data System provides information on the characteristics of a cross-section of injury and illness cases in meatpacking plants for which reports were filed with State workers' compensation agencies. For 1985, the SDS files of 23 participating States contained about 8,750 current cases in meatpacking. (Current cases are injuries or illnesses involving at least 1 lost workday which either occurred in 1985 or were reported to the State agencies that year.[7]) An analysis of the meatpacking file and the file for all SDS cases in manufacturing 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.)

Table 2. Occupational illness rates by category of illness, 1986 BLS Annual Survey

Illness	Incidence rates per 10,000 full-time workers[1]					
	Private sector		Manufacturing		Meatpacking plants	
	Rates	Percent of total	Rates	Percent of total	Rates	Percent of total
Total cases	19.2	100	45.6	100	641.3	100
Skin diseases or disorders	5.9	31	12.5	27	80.0	12
Dust diseases of the lung	.5	3	.9	2	1.0	([2])
Respiratory conditions due to toxic agents	1.7	9	3.5	8	14.3	2
Poisoning	.6	3	1.0	2	2.5	([2])
Disorders due to physical agents	1.3	7	2.9	6	21.0	3
Disorders associated with repeated trauma[3]	6.4	33	21.6	47	479.4	75
All other occupational illnesses	2.9	15	3.2	7	42.9	7

[1] See footnote 1 to text for method of calculation.
[2] Less than 0.5 percent.
[3] Includes conditions due to repeated motion, vibration, or pressure, such as carpal tunnel syndrome and related illnesses affecting the wrist and surrounding areas. Another example of repeated trauma is noise-induced hearing loss.

NOTE: The recording and reporting of illnesses continue to present measurement problems, in that employers (and even physicians) are often unable to recognize some illnesses as being work related. To the extent that occupational illnesses are unrecognized and, therefore, unreported, the survey underestimates their occurrence.

The two major *types of accident or exposure* were overexertion and being struck by an object. Together, these accounted for about three-fifths of all meatpacking cases, compared with half the SDS cases in manufacturing. No other category studied, such as falls from elevation or being struck against an object, constituted as much as one-tenth of the case total for meatpacking.

The leading *sources of injury or illness* in meatpacking were hand tools (not powered), especially knives, and food products, specifically carcasses and cuts of meat. These two sources were responsible for two-fifths of the SDS-recorded injuries and illnesses in meatpacking, compared with about one-tenth in manufacturing. A variety of other sources of injury and illness in meatpacking were reported, including boxes, barrels, and containers, working surfaces, machines, and vehicles, but none was commonly found.

Sprains and strains and cuts, lacerations, and punctures were, by far, the major *natures of injury and illness*. They accounted for about three-fifths of the cases in meatpacking and one-half of those in manufacturing as a whole. In addition, approximately one-eighth of the meatpacking cases were occupational illnesses, primarily inflammation or irritation of joints, tendons, and muscles (such as tendonitis), or diseases of the nerves or peripheral ganglia (such as carpal tunnel syndrome).

The upper extremities, especially the fingers, hand, and wrist, constituted the major *part of the body affected* by injuries and illnesses. They were involved in about half of the meatpacking cases and about one-third of those in manufacturing. Other major parts affected were the trunk, especially the back, and the lower extremities, particularly the legs. Together, the trunk and lower extremities were involved in about four-tenths of the meatpacking cases and roughly half of the manufacturing cases. Less commonly, the head, neck, and eyes were involved in occupational accidents or exposures.

The *major occupational group* of the injured or ill worker was "precision, production, and craft," accounting for nearly half of the SDS cases in meatpacking. The leading occupation of the injured or ill worker was butcher and meatcutter, by itself about four-tenths of the industry's cases. Another one-fourth of the meatpacking cases were various types of handlers, laborers, and helpers, and most of the remainder were machine operators, hand cutters and trimmers, and truckdrivers.

Not unexpectedly, the part of the body most often involved in an injury or illness in meatpacking varied by

Table 3. Occupational injury and illness rates in meatpacking plants, by type of case, 1977–86, BLS Annual Surveys

Year	Incidence rates per 100 full-time workers[1]					
	Lost workday cases		Nonfatal cases without lost workdays		Lost workdays	
	Injuries and illnesses	Injuries only	Injuries and illnesses	Injuries only	Injuries and illnesses	Injuries only
1977	15.6	14.4	18.0	17.0	202.3	183.8
1978	16.0	14.8	16.8	15.8	201.3	185.2
1979	18.3	16.8	18.5	17.4	243.2	220.3
1980	16.7	15.1	16.8	15.9	215.7	191.0
1981	15.7	14.0	17.1	15.7	212.0	183.2
1982	15.3	13.4	15.4	14.3	218.0	184.1
1983	15.8	13.6	15.7	13.8	245.4	202.5
1984	16.2	13.9	17.2	15.0	232.3	190.2
1985	15.1	13.0	15.2	13.3	246.1	200.3
1986	14.7	12.2	18.7	14.8	238.4	190.3
Annual average:						
1977–81	16.5	15.0	17.4	16.4	214.9	192.7
1982–86	15.4	13.2	16.4	14.2	236.0	193.5

[1] See footnote 1 to text for method of calculation.

occupation. The fingers, wrists, and other upper extremities, for example, accounted for two-thirds of the injuries and illnesses recorded for butchers and meatcutters, compared with two-fifths of those for handlers, laborers, and helpers. Back injuries, on the other hand, made up one-fifth of the total handlers' cases—double the proportion for butchers.

Characteristics of workplace injuries and illnesses are useful to State and Federal agencies and to safety and health professionals in developing work standards, in targeting accident and disease prevention activities, in identifying areas for enforcement activities, and in developing educational and training materials for employers and employees. To illustrate, using the SDS files, the Bureau has conducted several small-scale studies of specific work injuries to assist the Occupational Safety and Health Administration (OSHA) in revising its standard on personal protective equipment.[8] The BLS study on hand injuries, for example, showed that half the injured meatcutters and butchers in manufacturing (18 out of 35 workers interviewed in the January-April 1981 survey period) were not wearing work gloves at the time of their accident. The same study found that 70 percent of workers interviewed in manufacturing (394 out of 566) were not wearing protective gloves when they injured their hands.[9]

Obviously, a separate, broad-based study of meatpacking plants would be required to track the underlying causes of and attitudes towards safety and health problems. Ideally, such a study would relate employee hours (not included in SDS) to injury and illness case characteristics to produce consistent measures of the incidence and prevalence of workplace accidents and exposures at a national level.

Industry characteristics. Several other BLS data series (and a few outside the Bureau) contain information useful in profiling the meatpacking industry. In many instances, these characteristics shed some light on safety and health problems in the industry.

First, the meatpacking industry continues to be more labor-intensive than manufacturing as a whole and has an above-average proportion of production workers. In 1986, the industry's employers required 57 percent more production worker hours than did all manufacturing to produce an additional $1 in value-added sales.[10] And, the BLS employment and earnings series currently shows that production workers account for 85 percent of the meatpacking work force, compared with 70 percent for all manufacturing. Also, the industry's production work force continues to shift to rural areas that are closer to livestock production; as evidence, about half the meatpacking workers covered by the Bureau's Industry Wage Survey were in nonmetropolitan areas in 1984, up from one-fourth recorded in the 1963 study of the industry.[11]

Second, the use of manual labor rather than machine operators is still the rule in meatpacking. And, the widespread use of an assembly-line approach to processing "boxed beef" substituted, to a large extent, lower skilled, less experienced workers for higher skilled meatcutters using traditional, non-assembly line production methods.[12] A Bureau study of technology in meatpacking found that cutting operations, especially fabricating carcasses into wholesale and retail cuts, is largely done manually and that, in general, further automation in the industry depends on "developing economical and reliable cutting machinery capable of adapting to the physical differences in animal carcasses.[13]

Third, over the 10 years ending 1986, productivity (as measured by output per hour) increased slightly more in meatpacking than in all manufacturing—at average annual rates of 3.4 percent and 3.0 percent, respectively.[14] The productivity growth for meatpacking, however, primarily resulted from an annual decline in employee hours of 2.7 percent; output rose by 0.7 percent a year over the 10-year span. In contrast, in manufacturing, a 2.1-percent increase in output spurred much of the productivity growth; employee hours declined by 0.8 percent a year between 1977 and 1986. Some have pointed to the increasing speed of the assembly line in meatpacking as contributing not only to the industry's productivity gains, but also to its safety and health problems.[15]

Fourth, labor turnover rates, as tracked by the Bureau through 1981, were higher in meatpacking than in all manufacturing. For meatpackers, the 1977–81 accession rates, which include new hires and recalls, averaged 4.3 per 100 employees a year, compared with 3.8 for all manufacturing. The separation rate, which includes quits and layoffs, was also higher, averaging 4.6 per 100 employees a year, compared with 3.9 for all manufacturing.

Traditionally, the meatpacking industry has had relatively high layoff and recall rates, but the quit rates almost always were below those in manufacturing. However, in 1979, 1980, and 1981—the last 3 years of the BLS labor turnover series—the quit rates were also higher in meatpacking; this reversal occurred around the same time that the pay advantage for meatpackers began to erode—from 16 percent above the manufacturing average in 1977 to 6 percent higher in 1982, to 15 percent below the factory average in 1986, based on the BLS employment and earnings series.

Above-average turnover may still be prevalent in the industry. It has been suggested that the recent relocations of plants to rural areas has attracted a more transient work force.[16] Such inexperienced, untrained workers tend to be more accident-prone, especially when doing work for which there are no recognized safety standards, such as handling heavy objects.

Implications for the future. During testimony before the Congress in the spring of 1987, the American Meat Institute, the national trade association serving the meat products industry, outlined an agenda of past, current, and future steps for improving plant safety. For example, the Institute cited mesh safety gloves and enforcement of glove usage as contributing to fewer knife cuts in recent years; and, they pointed to the increased use of new flooring materials and cleaning compounds as well as better-designed work boots to reduce slip and fall hazards.[17]

Current and future work on safety and health will focus on a relatively new field. Ergonomics, the study of equipment design to reduce fatigue and discomfort, will play an important role in the way workers cut and handle meat. The American Meat Institute recently developed an illustrated ergonomics manual on strains and sprains, largely in response to the extensive exposure of industry workers to cumulative trauma disorders of the hand, wrist, shoulders, and back due to repetitive movements. Future activities in the short- and long-term, according to the Institute, will include a review of knives, knife handles, and alternatives to knives, such as lasers; meetings with equipment and tool manufacturers; and a reevaluation of assembly-line speeds and the use of "micro" breaks or exercise. Safety and health experts attest that engineering controls such as these are often an effective way to minimize safety and health hazards. □

——*FOOTNOTES*——

[1]*Incidence rates* represent the number of injuries or illnesses, or both, per 100 full-time workers and were calculated as:

$$N/EH \times 200{,}000$$

where:

N= number of injuries and/or illnesses;

EH= total hours worked by all employees of the industry during calendar year; and

200,000= base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

A variety of useful incidence rates may be computed by making N equal to the number of injuries only, or the number of lost workday cases, or the number of lost workdays, and so forth. In each instance, the result is an estimate of the number of cases or days per 100 full-time workers. Table 2 in this article expresses the incidence of illnesses per 10,000 workers, using a base of 20,000,000 employee hours.

[2]The high-risk industries were determined at the most detailed or lowest Standard Industrial Classification (SIC) code level for which rates are available. The four-digit SIC codes of manufacturing industries in Charts 1 and 2 are shown in parenthesis: animal fats (2077); automatic merchandising machines (3581); boatbuilding (3732); cane sugar refining (2062); logging camps (2411); meatpacking plants (2011); mobile homes (2451); prefabricated wood buildings (2452); raw cane sugar (2061); reclaimed rubber (3031); special product sawmills (2429); structural wood members (2439); and vitreous china plumbing fixtures (3261). It should be noted that the 10 high-risk industries and their individual rankings also vary from one year to the next.

[3]The annual survey includes seven broad categories used to classify occupational illnesses, as shown in table 2.

[4]The Supplementary Data System (SDS) is not statistically representative of the Nation as a whole because the data cover only the jurisdictions participating in the system: in 1985, the latest year for which detailed information is available, these were 23 States as follows—Alaska, Arizona, California, Colorado, Hawaii, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, Nebraska, New Mexico, Ohio, Oregon, Tennessee, Utah, Virginia, Washington, Wisconsin, and Wyoming.

States differ, moreover, in the kinds of cases they require by law to be reported to workers' compensation agencies. While some States require reports for all occupational injuries and illnesses, regardless of the length of disability, others require reports only for cases of sufficient duration to qualify for indemnity compensation payments, and still other States require reporting of cases involving a specific number of lost workdays, regardless of the indemnity "waiting period." Thus, the SDS file is not a complete census of all "disabling" injuries and illnesses in the States studied.

The SDS, however, does standardize the classification of data by using the *1972 Standard Industrial Classification Manual*; the *1980 Census of Population, Classified Index of Industries and Occupations*; and the 1962 *American National Standard Method of Recording Basic Facts Relating to the Nature and Occurrence of Work Injuries*, published by the American National Standards Institute (ANSI), and often referred to as the Z16.2–1962 Standard, or simply Z16.2.

[5]For an orientation in accident prevention in meat products manufacturing, see *Meat Industry Safety Guidelines* (National Safety Council, 1978).

[6]A forthcoming *Monthly Labor Review* article by Harvey J. Hilaski, Chao Ling Wang, and Larry Jones will discuss occupational illnesses in the 1980's.

[7]The total for the 23 SDS States is about two-fifths of the annual survey estimate of 18,460 lost workday cases in meatpacking in 1985. See footnote 4 for some limitations pertaining to the scope of cases included in SDS. An examination of patterns in case characteristics for Iowa and Nebraska—two major meatpacking centers covered by the 1985 SDS—showed a near congruence to those reported here for the combined 23 States.

[8]*Work-related Hand Injuries and Upper Extremity Amputations*, Bulletin 2160 (Bureau of Labor Statistics, 1982); *Accidents Involving Eye Injuries*, Report 597 (Bureau of Labor Statistics, 1980); *Accidents Involving Face Injuries*, Report 604 (Bureau of Labor Statistics, 1980);

Accidents Involving Foot Injuries, Report 626 (Bureau of Labor Statistics, 1981); and, *Accidents Involving Head Injuries*, Report 605 (Bureau of Labor Statistics, 1980).

[9]*Hand Injuries*, pp. 4 and 8.

[10]*1986 Annual Survey of Manufacturing* (U.S. Department of Commerce, Bureau of the Census).

[11]*Industry Wage Survey: Meat Products, June 1984*, BLS Bulletin 2247 (Bureau of Labor Statistics, 1985); and bulletin for March 1963 (1415).

[12]See *Meat Products, June 1984*, appendix B, for descriptions of cutting jobs used in boxed beef and in traditional beef cutting. Under the older methods, a relatively highly skilled cutter typically makes more than one cut; the boxed beef worker commonly makes a single cut as a piece of beef passes before them.

[13]*Technology and Labor In Four Industries*, BLS Bulletin 2104 (Bureau of Labor Statistics, 1982), p.2. The report also discusses some of the cost advantages of boxed beef, such as lower unit freight and unit labor costs.

[14]Average annual rates of change are based on linear least squares of the logarithms of index numbers produced by the Office of Productivity and Technology of the Bureau of Labor Statistics. For a comprehensive account of productivity trends in the red meat products industry, and in meatpacking in particular, see Richard B. Carnes, "Meatpacking and prepared meats industry: above-average productivity gains," *Monthly Labor Review*, April 1984, pp. 37–42.

[15]In a May 12, 1988, article in *The Wall Street Journal*, Frank White, deputy assistant Secretary of Labor for the Occupational Safety and Health Administration (OSHA), characterized his department's 6-month investigation of a large meatpacking plant this way: "One reason for the numerous instances of cumulative trauma disorder at the Nebraska plant was an increase in the speed of the meat cutting and handling line." Recently, this company reached an agreement with OSHA to study ways to redesign its work processes to help reduce repeated-motion disorders.

[16]For example, see *General Report on the 1986 National Packinghouse Strategy and Policy Conference*, United Food and Commercial Workers International Union, AFL-CIO, CLC, pp. 18–28.

[17]Testimony of C. Manly Molpus, President, American Meat Institute, before the House Government Operations Committee, Subcommittee on Employment and Housing, U.S. House of Representatives, May 6, 1987.

APPENDIX: Work injury definitions

In this article, definitions of occupational injuries and illnesses and lost workdays conform to the recording and reporting requirements of the Occupational Safety and Health Act of 1970 and Part 1904 of Title 29, Code of Federal Regulations. Supplemental information pertaining to these definitions is contained in the booklet, *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (Bureau of Labor Statistics, 1986).

Recordable occupational injuries and illnesses are:

1. occupational deaths, regardless of the time between injury and death, or the length of the illness; or
2. nonfatal occupational illnesses; or
3. nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury, such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

1. *Lost workday cases involving days away from work* are those cases which result in days away from work, or a combination of days away from work and days of restricted work activity.
2. *Lost workday cases involving restricted work activity* are those cases which result in restricted work activity only.

Lost workdays—away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness:

1. The employee was assigned to another job on a temporary basis; or
2. The employee worked at a permanent job less than full time; or
3. The employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.