Profiles in safety and health: eating and drinking places

Eating and drinking places reported large numbers of workplace injuries and illnesses, primarily to teenagers and women who comprise most of the industry's work force; sprains, cuts, and burns were leading work disabilities

"The cook was a good cook, as cooks go; and as cooks go she went."
—Hector Hugh Munro ("Saki")

Martin E. Personick

In 1770, the first public restaurant opened in Paris. Today, nearly 400,000 eating and drinking places are reported in the United States alone. They employ some 6 million workers who prepare and serve an impressive array of meals, snacks, and other refreshments. Although the fare varies from fast food to haute cuisine, the industry's workers often encounter similar job hazards and sustain common injuries, including scalding burns and serious cuts while preparing meals, as well as disabling sprains and strains in the course of serving food and drink.

This article examines characteristics of the eating and drinking places industry and analyzes its injury and illness record in detail.[1] It covers the restaurant industry as part of a Bureau of Labor Statistics series focusing on "high-impact" industries, defined as those with the largest numbers of occupational injuries and illnesses, although not necessarily the highest incidence *rates*.[2] According to a 1989 BLS survey, eating and drinking places ranked first in total recordable injuries and illnesses, with 355,000 cases. Only 10 industries, the survey shows, reported at least 100,000 cases that year. (See table 1.) These industries, however, accounted for nearly three-tenths of the 6.6 million cases reported nationwide in 1989. Clearly, if industries with high case counts become safer, more healthful workplaces, then the national figures will reflect these improvements in addition to those stemming from safer working conditions in "high-rate" industries.

However, a trend to safer restaurants, bars, and related workplaces is not evident from BLS survey results of the 1980's. At the start of the decade, the injury and illness rate of 6.9 per 100 full-time workers for eating and drinking places was nearly two points lower than the private sector rate of 8.7.[3] Nine years later, its rate had risen to 8.5, in line with the private sector rate of 8.6. Currently, eating and drinking places account for 1 in 20 on-the-job injuries and illnesses reported nationwide.

The severity of accidents in eating and drinking places required nearly two-fifths of those injured to take time off from their jobs or to be assigned to light duties or other work restrictions.[4] Most of the disabled were teenagers and adult women[5]—groups who constitute two-thirds of the industry's work force. More often than not, the injured employee had relatively short tenure (1 year or less) in the eating or drinking place at the time of the accident.[6]

The industry at a glance

Over the past two decades, meals and snacks prepared away from home have become an increasingly larger share of our food budgets, reflecting, in part, greater spending power, desire for greater leisure and convenience at home

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Table 1. **Industry groups with largest number of occupational injuries and illnesses, BLS annual survey, 1989**

SIC code[1]	Industry group	Employment (thousands)	Injuries and illnesses	
			Total cases (thousands)	Total case rate[2]
—	Private industry[3]	91,111.0	6,576.3	8.6
581	Eating and drinking places	6,449.4	354.7	8.5
541	Grocery stores	2,828.4	254.2	12.6
806	Hospitals	3,472.3	234.7	8.5
371	Motor vehicle manufacturing	857.0	193.3	22.6
421	Trucking and courier services, except air	1,486.4	192.1	13.4
805	Nursing homes	1,369.7	162.5	15.5
531	Department stores	2,094.2	156.2	10.8
701	Hotels and motels	1,549.1	130.4	11.0
201	Meat products manufacturing	409.6	109.6	27.1
514	Wholesaling grocery products	840.2	105.9	13.3

[1] *Standard Industrial Classification Manual*, 1987 edition.
[2] Rates per 100 full-time workers. See footnote 3 to text for method of calculation.
[3] Excludes farms with fewer than 11 employees.

NOTE: The 10 groups shown here are the only "three-digit" industrial classifications reporting at least 100,000 injury and illness cases in 1989.

and away from home, and changing life styles, such as the higher proportion of women who work outside the home. According to the Bureau of Labor Statistics Consumer Expenditure Surveys, food away from home accounted for slightly more than two-fifths of total food expenditures by consumers in 1989; in 1972, the corresponding figure was one-fourth.

This shift in eating patterns has resulted in strong employment growth for eating and drinking places. In fact, this industry added more jobs during the 1980's than did any other, increasing its work force from 4.5 million in 1979 to nearly 6.4 million in 1989.[7] By the year 2000, its work force is projected to approach 8 million, about the same job total expected for the whole finance, insurance, and real estate sector.[8]

Increased spending for meals and snacks prepared away from home continues to shift from full service restaurants to fast food establishments. As a result, the share of industry sales receipts of refreshment places (including most fast food units) has risen from 26 percent in 1972 to 38 percent in 1987, the latest data available from the Census of Retail Trade.[9] During the same period, the corresponding share of restaurants and lunchrooms fell from 50 percent to 45 percent. The balance of the nearly $150 billion spent in eating and drinking places in 1987 was divided among cafeterias, food service contractors, ice cream and frozen custard stands, social caterers, and bars and other drinking places.

Eating and drinking places typically employ small work forces, averaging 16 employees per establishment. The average work force size by type of eating and drinking place ranged from 21 employees for food service contractors to 5 or 6 employees in ice cream stands and bars and other drinking places.[10] Larger units (20 workers or more), although slightly more than one-fourth of the 380,000 establishment total, account for nearly three-fourths of the industry's work force.[11]

Food and beverage preparation workers constituted about three-fourths of the industry's 6.4 million workers. The largest single job category was waiters and waitresses, with nearly 1.4 million workers or one-fifth of the employment total. Other occupations with at least 250,000 workers included kitchen and kindred helpers, fast food cooks, food preparation (kitchen) workers, restaurant cooks, waiters' and waitresses' assistants, cashiers, counter and fountain workers, and bartenders. Of special note, the continuing consumer trend toward home delivery of pizza and other foods has bolstered employment of driver/sales workers and other motor vehicle operators in the industry, estimated at 128,000 in the BLS 1988 survey of occupational employment.[12]

Worker characteristics and work arrangements in eating and drinking places differ markedly from those of the private sector as a whole. Teenagers (16 to 19 years), for example, constitute nearly one-fourth of total employment in eating and drinking places, compared with one-twentieth of the private sector's work force. Part-time workers, moreover, are slightly more than two-fifths of all wage and salary workers in restaurants and related places, more than double the corresponding figure for nonagricultural wage and salary workers in the private

sector.[13] These and other data help explain the relatively high turnover rate in eating and drinking places that has precluded, to this point, the buildup of a seasoned, experienced work force.[14]

Safety and health measures

Injury and illness rates for eating and drinking places date back to the mid-1970's, when the industry's rate per 100 full-time workers averaged about 2 points lower than that in the private sector. Since then, however, differences in these rates have all but disappeared, as the following tabulation illustrates:

	Annual average		
	1975–79	*1980–84*	*1985–89*
Private sector	9.3	8.1	8.3
Eating and drinking places	7.2	7.5	8.4

Thus, eating and drinking places no longer mirror the safety profile of many other trade, finance, and services industries in which the frequency of injuries and illnesses on the job typically is well below the national average.

Besides the overall injury and illness rate, there are other measures that the Bureau of Labor Statistics uses to gauge the *severity* of workplace incidents. (See appendix for definitions.) Over the past decade, these measures recorded mixed results for eating and drinking places. On a positive note, the industry continues to report relatively lower rates of lost workday cases and rates of lost workdays than those reported for the overall private sector. (See table 2.) But over time, the industry's lost worktime rates have been rising, as has the measure of employee time off for recuperation from such disabling injuries—an average of 15 days away from regular work per lost workday case in 1989, up 3 days from 1979.

Separate State data are useful in spotting variations in injury and illness experience within an industry. Table 2 shows, for example, that 5 States for which injury and illness data are available (Alaska, Hawaii, Nevada, Virginia, and Washington) had relatively high total case rates in eating and drinking places—exceeding the corresponding national average by about 2 points or more.

Overall rates, however, are not necessarily indicative of accident severity. One such measure—average lost workdays per case—ranged from 9 to 13 days for five previously noted States, compared with 15 days for eating and drinking places as a whole. (For a variety of reasons, injury and illness estimates tend to be more volatile from year to year for individual States than for the Nation as a whole. Thus, the 1989 data are more illustrative of geographic variability than of longer term relationships among individual States.)

Injury and illness characteristics

The BLS 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 BLS program—the Supplementary Data System—based on the State workers' compensation systems. Unlike the annual survey, the Supplementary Data System does not produce nationwide estimates and lacks a uniform treatment among States of what is a compensable workplace injury or illness.[15] Despite several analytical and statistical limitations, the Supplementary Data System does help in spotting general patterns (or a lack thereof) in the characteristics of work-related injuries and illnesses involving lost worktime.

Eating and drinking places ranked first in total recordable injuries and illnesses in an industry.

In 1987, nearly 63,700 injuries and illnesses which involved lost workdays in eating and drinking places were reported to 24 State agencies and the Virgin Islands participating in the Supplementary Data System that year. (These "current cases" either occurred in 1987 or were reported to the State agencies that year.[16]) Separate analysis of eating and drinking places and all private sector cases in the Supplementary Data System point up several differences. (Such comparisons, however, are subject to the same types of limitations previously ascribed to the Supplementary Data System.)

Case characteristics. The Supplementary Data System identifies four principal injury and illness case characteristics: (1) physical condition (nature) of injury or illness; (2) part of body affected by the condition; (3) source of injury or illness (that is, the object, substance, exposure, or bodily motion which directly produced or inflicted the condition); and (4) event or exposure (type) of injury or illness (namely, the manner in which the condition was inflicted or produced). These features help to determine the "what and how" of disabling incidents in the workplace.

In terms of principal physical characteristics, sprain and strain occurred most frequently among the nature *of injury or illness* categories, accounting for three-tenths of the eating and drinking places cases recorded by the Supplementary Data System. Next in frequency were cuts (including lacerations and punctures), cited in about one-fifth of the industry's cases. Heat burns, largely the result of contact with hot

Table 2. **Occupational injuries and illnesses by type of case, 1989 annual survey**

Industry and State	Incidence rates[1]				Average lost workdays per lost workday case
	Total cases[2]	Nonfatal cases without lost workdays	Lost workday cases	Lost workdays	
Private sector[3]	8.6	4.6	4.0	78.7	20
Eating and drinking places, total[4]	8.5	5.3	3.2	49.4	15
Alabama	8.6	5.9	2.7	40.8	15
Alaska	11.7	6.8	4.9	47.6	10
Arizona	9.8	6.3	3.5	55.7	16
California	9.0	5.1	3.9	61.4	16
Connecticut	6.6	4.7	2.0	22.9	11
Delaware	6.5	3.9	2.6	26.4	10
Florida	9.2	6.0	3.2	46.5	15
Guam[5]	2.9	.4	2.4	20.1	8
Hawaii	13.9	5.9	8.0	99.6	12
Indiana	8.7	5.3	3.3	39.2	12
Iowa	7.4	5.2	2.2	28.9	13
Kansas	9.2	6.8	2.4	51.4	21
Kentucky	7.9	4.4	3.5	37.8	11
Louisiana	8.6	5.2	3.5	74.1	21
Maine	8.4	4.6	3.8	66.4	17
Maryland	8.0	4.2	3.8	69.0	18
Michigan	8.5	5.1	3.3	49.1	15
Minnesota	7.6	4.5	3.0	45.0	15
Mississippi	8.3	4.2	4.1	70.4	17
Missouri	9.9	6.6	3.3	39.4	12
Montana	6.7	4.4	2.3	90.5	39
Nebraska	8.2	5.9	2.2	32.5	15
Nevada	10.4	6.7	3.7	48.9	13
New Mexico	8.1	4.2	3.9	71.0	18
North Carolina	8.5	5.2	3.3	44.2	13
North Dakota	5.8	4.4	1.4	36.6	26
Oklahoma	9.7	6.2	3.5	79.0	23
Oregon	9.9	6.0	4.0	55.5	14
Rhode Island	7.2	4.7	2.5	25.9	10
South Carolina	8.4	5.8	2.6	33.5	13
Tennessee	9.9	6.3	3.6	58.4	16
Utah	9.1	5.9	3.1	21.3	7
Vermont	6.3	4.2	2.1	30.1	14
Virgin Islands[5]	.6	—	.6	28.9	48
Virginia	10.4	6.4	4.0	43.7	11
Washington	12.0	7.2	4.8	41.0	9
West Virginia	8.7	4.7	4.0	33.8	8
Wyoming	6.1	3.9	2.2	18.2	8

[1] Incidence rates represent the number of injuries and illnesses per 100 full-time workers. See footnote 3 to text for method of calculation.

[2] Includes fatalities. Because of rounding, the difference between the total and the sum of the rates for lost workday cases and nonfatal cases without lost workdays may not reflect the fatality rate.

[3] Excludes farms with fewer than 11 employees.

[4] Includes data for States in addition to those shown separately.

[5] Excluded from the total. The U.S. total includes data for the 50 States and the District of Columbia.

NOTE: Dash indicates no cases reported among establishments studied.

foods, liquids, and heating equipment, accounted for nearly one-eighth of the case total. Categories with fewer injuries, but at least one-twentieth of the total, included contusions and fractures.

The upper extremities, especially the fingers and hands, constituted the major *part of body affected* by injuries and illnesses in eating and drinking places. They were involved in nearly two-fifths of the industry's cases, well above the corresponding proportion (one-fourth) of the private sector case total. (Serious finger cuts and burns to the arms and hands together accounted for about one-fifth of all eating and drinking cases reported under the Supplementary Data System.) Other major body parts affected and their proportion of the restaurant industry's case total included the back and other portions of the trunk (one-fourth) and the legs and other lower extremities (one-fifth).

The leading *events or exposures* causing injuries in eating and drinking places are falls to floors and walkways; being struck by knives, machine slicers, and kindred objects; and

overexertion from lifting or otherwise moving heavy objects. Together, these accounted for a clear majority of all cases recorded by the Supplementary Data System in the restaurant industry. Other notable types of accidents included employees coming into contact with hot objects, striking against furniture and other objects, and slipping or tripping.

A wide variety of *sources* produced or inflicted injuries and illnesses in eating and drinking places. Floors and other working surfaces, for example, accounted for slightly more than one-fifth of the industry's case total. Boxes, barrels, and containers—another broad classification that includes pots, pans, dishes, and other kitchen items—made up another one-fifth of the cases. Other prominent sources included inadvertent bodily motion (for example, slipping or tripping), heated vegetables and other hot foods, cleaning materials and other chemical compounds, and knives, slicers, and other such equipment.

Worker characteristics. Who sustained injuries and illnesses in the restaurant industry? The sex, age, length of service, and occupation of the injured or ill worker is analyzed, using demographic categories available from the BLS Supplementary Data System. As a proxy for work activity, the occupation of the injured employee is important in zeroing in on specific work hazards.

Not surprisingly, women figure prominently in the safety profile of eating and drinking places. The industry's 63,700 cases recorded in the 1987 Supplementary Data System were divided about evenly between men and women, in line with their shares of the restaurant work force. But safety risks for women appear to be comparatively higher in this industry, where they are overwhelmingly food service workers, than in the private sector as a whole, where they are mostly in relatively safer white-collar jobs.[17] In support of this point, women are nearly one-half the U.S. work force, but are only about one-fourth of the total private sector injury and illness cases (1.1 million) covered by the Supplementary Data System.

Young workers (under age 25) are a much greater proportion of injury and illness cases recorded in eating and drinking places (nearly half the total) than they are of the private sector total (slightly more than one-fifth). These differing proportions, however, mostly reflect the relatively large presence of young workers in restaurants. Teenagers (ages 16 to 19) constitute nearly one-fourth of the industry's work force and young adults (ages 20 to 24), another one-fifth. Because their shares of total injuries and employment are similar, young workers appear to run no higher safety risks in eating and drinking places than they do in the private sector as a whole.

Teenagers working in eating and drinking places are the subject of a separate set of tabulations developed from the Supplementary Data System. The data show, for example, that injured teenagers are more likely to sustain serious heat burns and less likely to incur disabling sprains than are older restaurant workers. The following tabulation substantiates this finding, based on injury and illness data for two major occupations employing many teenagers in this industry:

	Percent of injury total for—	
Injury	*Teenage cooks*	*Adult cooks*
Heat burn	30–34	15–19
Sprain or strain	10–14	25–29
	Teenage kitchen helpers	*Adult kitchen helpers*
Heat burn	15–19	5–9
Sprain or strain	20–24	30–34

Given their youth, many restaurant and related workers predictably have relatively little work experience. This helps explain why a clear majority of those disabled had been working a year or less in their eating and drinking establishment. A relatively small proportion had completed 3 years with their employer at the time of the accident—about one-sixth in restaurants, compared with one-third in all private industry. It is unclear from the limited data available, however, whether youth and inexperience, per se, are major safety and health issues in this industry.[18]

Leading causes of restaurant injuries are falls, being struck by objects, and overexertion.

Food service occupations were, by far, the largest job grouping of the injured or ill worker, accounting for slightly more than four-fifths of the recorded Supplementary Data System cases in eating and drinking places. Within the food service grouping, cooks and kitchen and kindred helpers each were about one-fifth of the industry's cases; waiters and waitresses and food preparation (kitchen) workers each were an additional one-tenth of the total. Outside of food services, a variety of management, sales, and transportation jobs accounted for most of the industry's other recorded cases.

The characteristics of injuries can vary by occupation. The following tabulation illustrates this point, by comparing the percentage range of total injuries for cooks with that of waiters and waitresses in restaurants:

	Cooks	*Waiters and waitresses*
Injury to upper extremity . . .	50–54	25–29
Injury to lower extremity . . .	10–14	25–29
Fall-related injury	15–19	35–39
Heat burn	20–24	5–9

Improving safety statistics

During the mid-1980's, the Bureau of Labor Statistics requested the National Research Council to convene an expert panel to examine the collection and use of data on safety and health in the workplace. In 1987, the Panel on Occupational Safety and Health Statistics recommended that the Bureau's annual survey be modified to permit collection of detailed data on severe occupational injuries.[19] In response, the Bureau is planning to expand the scope of its nationwide survey to include information on the characteristics of *all* disabling (lost worktime) injury and illness cases.

The improvement in the information available for the eating and drinking places industry will be dramatic, doubling the number of lost workday cases now described in the Supplementary Data System of roughly two dozen States. The new survey, moreover, will be based on a uniform set of definitions for lost workday cases, supplanting the variety of State definitions found in the Supplementary Data System.

Besides more complete coverage, the newly expanded survey will offer enhanced analytical possibilities for evaluating safety risks in restaurants more precisely. Zeroing in on injury severity, for instance, the survey will identify the length of recuperation for cases involving lost worktime. Applying this information, analysts will be able to look at the average number of lost workdays per case when gauging the severity of injuries and illnesses to teenagers or to adult women restaurant workers, to cite two examples. In addition, the most severe cases, say 30 lost workdays or more, could be profiled separately in eating and drinking places and the following hypothesis tested: older workers are a comparatively large proportion of these long-term cases.

In summary, the new BLS Federal/State safety and health survey will be especially useful in profiling industries with large numbers of workplace injuries and illnesses, such as eating and drinking places. Its detailed analyses will help target the most serious work hazards and perhaps help industry formulate and evaluate specific solutions to improve workplace safety and health. □

Footnotes

ACKNOWLEDGMENT: The author thanks Elyce Biddle and Norma Carlson in the Division of Safety and Health Statistics for their continuing assistance in developing special tabulations used in the Bureau's series of safety and health articles.

[1] Eating and drinking places has been designated industry group 581 in the *Standard Industrial Classification Manual*, 1987 edition, prepared by the Office of Management and Budget. The industry includes retail establishments selling prepared foods and drinks for consumption on the premises; lunch counters and refreshment stands selling prepared foods and drink for immediate consumption; and caterers and industrial and institutional food service establishments. Eating facilities in department stores and hotels are excluded, unless leased to outside operators.

Throughout this article, the terms "eating and drinking places" and "restaurants" are used interchangeably to denote the industry as a whole.

[2] For an account of industries with high rates of workplace injuries and illnesses, see Martin E. Personick and Katherine Taylor-Shirley, "Profiles in safety and health: occupational hazards of meatpacking," *Monthly Labor Review*, January 1989, pp. 3–9.

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

N/EH x 200,000

where

N = number of injuries and/or illnesses;

EH = total hours worked by all employees of the industry during the 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, and so forth. In each instance, the result is an estimate of the number of cases or days per 100 full-time workers.

[4] According to the Bureau's 1989 annual survey, 38 percent of all restaurant injury and illness cases involved days away from work or restricted work activity. By comparison, the corresponding figure was 47 percent in all private industry.

[5] Derived from the Bureau's Supplementary Data System, as discussed later in the text.

[6] *Ibid.*

[7] See Lois M. Plunkert, "The 1980's: a decade of job growth and industry shifts," *Monthly Labor Review*, September 1990, table 5, p. 12.

[8] See Valerie A. Personick, "Industry output and employment: a slower trend for the nineties," *Monthly Labor Review*, November 1989, table 6, p. 37.

[9] *1987 Census of Retail Trade*, RC87-A-52 (Bureau of the Census, 1989), table 1, p. 12. For an account of corresponding 1958-72 trends, see Richard B. Carnes and Horst Brand, "Productivity and new technology in eating and drinking places," *Monthly Labor Review*, September 1977, pp. 10–11.

[10] *1987 Census of Retail Trade*, table 2, p. 14.

[11] *County Business Patterns, 1988: United States*, CBP-88-01 (Bureau of the Census, 1990), table 1b.

[12] Occupational data are available upon request, from the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

[13] Unpublished data from the Current Population Survey, Bureau of Labor Statistics, 1990 annual averages.

[14] This high turnover rate continues a trend mentioned by Carnes and Brand, "Productivity and new technology," p. 11.

[15] The Supplementary Data System is not statistically representative of the Nation as a whole because the data cover only the jurisdictions participating in the system. In 1987, these were the Virgin Islands and the following 24 States: Alaska, Arizona, California, Colorado, Hawaii, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, Nebraska, New Mexico, Ohio, Oklahoma, Oregon, Tennessee, 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 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 file of the Supplementary Data System is not a complete census of all "disabling" injuries and illnesses in the jurisdictions studied.

The Supplementary Data System, however, does standardize the classification of data using the *Standard Industrial Classification Manual*, the *1980 Census of Population, Alphabetical Index of Industries and Occupations*, and the *1962 American National Standards Method of Recording Basic Facts Relating to the Nature and Occurrence of Work Injuries*. The latter is published by the American National Standards Institute and often referred to as the Z16.2-1962 Standards, or simply, Z16.2.

[16] See footnote 15 for some limitations pertaining to the range of cases included in the Supplementary Data System.

[17] According to the Current Population Survey, conducted for the Bureau of Labor Statistics by the Census Bureau, about seven-tenths of women employed in the private sector held white-collar jobs and about one-twentieth were food service workers. By comparison, limited CPS data available for eating and drinking places show that a clear majority of the women were food service workers and only about one-fourth were in white-collar jobs.

The risk of injury by occupation is examined in Norman Root and Deborah Sebastian, "BLS develops measure of job risk by occupation," *Monthly Labor Review*, October 1981, pp. 26-30. The authors found that white-collar workers as a group were subject to injuries at one-fourth the average of all occupations while injury risks for food service workers approached that average. See also Norman Root and Judy R. Daley, "Are women safer workers? a new look at the data," *Monthly Labor Review*, September 1980, pp. 3-10. These Bureau researchers found that "men and women doing the same kind of work incur similar injuries with about the same frequency." They conclude that "work activity, not the worker, is a more important determinant of injuries."

[18] Among the worker characteristics studied, data on age, sex, and occupation are available for the full 1987 Supplementary Data System case file of 25 jurisdictions. But for work experience, defined here as time with employer (or on the job) when injured, data relate to 16 jurisdictions reporting such information.

For a discussion of the relationship of age, work experience, and work injuries, see Norman Root and Michael Hoefer, "The first work-injury data available from new BLS study," *Monthly Labor Review*, January 1979, pp. 76-80. This article lists several research studies that show a negative correlation between work injuries and work experience. But it also points out that experienced and inexperienced workers in general sustain very similar injuries on the job, an argument for more than just initial safety training for new employees.

[19] See Earl S. Pollack and Deborah Gellerman Keimig, eds., *Counting Injuries and Illnesses in the Workplace: Proposals for a Better System* (Washington, National Academy Press, 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 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 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.

Retention rates and dropouts

Concern to keep dropouts in school is matched by concern about the falling standards that are produced by the educational changes that keep them in. Although increasing retention rates would seem to signal higher levels of achievement among young people, there has been concern in Canada, as in other Western countries, about 'standards,' about whether high-school graduation continues to mean as much as it used to, and whether expectations for achievement have been adjusted downwards as more young people stay in school and expect to graduate. Public-opinion polls suggest the public thinks the quality of education is declining.

The rhetoric of educational reform is directed at touching all these bases, despite their contradictions. It is the organization of knowledge within the secondary system that becomes the issue, and the streaming of students into vocational and practical or academic and abstracted programs that is controversial. It is to these structural issues that we now turn.

—Jane Gaskell,
"Education as Preparation for Work in Canada:
Structure, Policy and Student Response," in David Ashton
and Graham Lowe, eds., *Making Their Way:*
Education, Training and the
Labor Market in Canada and Britain
(Toronto, Ontario, Canada, University of Toronto Press, 1990), p. 66.
