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DISABILITY PREVENTION AND MANAGEMENT OF OCCUPATIONAL TRAUMA AND DISEASE: A NORTH AMERICAN PERSPECTIVE

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ABSTRACT

This paper examines the implications of the growing disability prevention and management movement in the U.S. It includes consideration of topics such as: How much variation is there in disability performance among employers? What accounts for this variation? Is there a connection between labor-management relations and disability incidence? What are the policy implications of the disability prevention and management movement? Can these be extended to a system-wide approach? What lessons can be learned from the experience to date?

INTRODUCTION

Disability prevention and management is a proactive, employer-based approach to: (1) prevent the occurrence of injuries and disabilities; (2) intervene early for disability risk factors; and (3) coordinate services for a cost effective restoration and return to work.¹ Thus, as used here, disability prevention and management includes the full range of strategies that an employer can use to reduce the direct cost and the production burden of occupational trauma and disease at the workplace. In U.S. practice, disability prevention and management techniques have been used as strategies for coping with high workers' compensation insurance (or self-insurance) costs. Such strategies are now very common in the U.S., particularly among larger employers in industries with what are perceived to be excessive workers' compensation costs. A survey of 1,050 large U.S. employers in 1993 indicated that 84 percent of them were actively attempting to control their workers' compensation costs with various disability prevention and management techniques.² The popularity of these strategies in the U.S. reflects a number of circumstances.

First, these employers are usually self-insured for workers' compensation coverage in the U.S. and thus have a direct financial incentive to reduce the costs of occupational trauma and disease.³ Second, such employers typically (but by no means always) follow an investment oriented human relations strategy, thus providing a positive productivity motivation for treating their employees well. In general, disability management techniques fit comfortably into such human relations strategies because they project a caring attitude toward employees. Third, such employers usually have the means and the will to manage their

¹ See Akabas, Gates, and Galvin (1992) for the inspiration for this definition.

² Towers Perrin (1993)

³ Self-insurance means that the employer is responsible for direct payment of the benefits specified by statute for workers disabled in the course of their employment. The financial advantage is that such employers are operating a "pay as you go" system rather than a forward funded one as would be required if they were to purchase workers' compensation insurance in the open market. Thus the self-insured employer has the use of the reserves for future benefits rather than the insurance company.

workplaces effectively. Thus it is not unusual that such firms have the perception that they should be able to control their disability costs, like many other costs. This is in contrast to firms that simply take market conditions, and other constraints, as given and try to work around them.

Beginning in the late 1980's, seemingly in response to an awareness of the rapidly escalating costs of disability, the United States has seen a disability management "explosion." It has tended to focus on disability amelioration efforts, rather than "old-fashioned" trauma and disease prevention efforts. This may be related to the passage of the *Americans with Disabilities Act* in 1990, which requires employers to accommodate persons with disabilities in the workplace, rather than simply avoiding them. There now is an entire industry developed to meet employer needs in this regard, with the usual marketing hyperbole. Virtually every workers' compensation insurance carrier claims to offer a disability management service and this growth has also come to be closely connected to the expansion of the managed care model in medical treatment. Are these employers right? Can they control their work-related disability costs?

THE MICHIGAN DISABILITY PREVENTION STUDY

Figure 1 shows the rather remarkable degree of variability in the incidence of lost work days among a random sample of 220 establishments in seven industries in Michigan in 1989. That is what led the W. E. Upjohn Institute for Employment Research, Michigan State University, and the Safety Education and Training Division of the Michigan Department of Labor to conceive a collaborative project to determine the extent to which these performance differences could be explained by measurable policy and practice differences among employers. It is clear from the figure that there is considerably more variation within industries than among industries, so the underlying hypothesis was that something other than the technological determinants of the production process must be driving these observed differences.⁴ The research collaborators set out to design a project that would measure performance differences in occupational injury and disease and seek to correlate these differences with differences in employer behaviors. In other words, to answer the question "What is causing these large performance differences?"

A set of 95 behavioral statements representing the disability prevention and management domain was developed at Michigan State University. After pre-testing and refinement, these were presented in a self-administered mail questionnaire which was sent to the CEO or, in larger establishments to the Human Resource Director, of a random sample of Michigan establishments. The questionnaire was sent to a stratified sample of 477 establishments with more than 100 employees in seven industries (Food Production, Furniture Manufacturing, Plastics and Rubber Manufacturing, Fabricated Metals, Non-Electrical Machinery Manufacturing, Transportation Equipment, and Health Services). Strata were structured by industry and size with sampling ratios adjusted according to the expected injury rate based on previously published data. Usable responses were obtained from 220 (or 46 percent) of these establishments after two mailings and a telephone follow-up.⁵ Respondents were asked to characterize the degree to which their establishment accomplished those behaviors; never (or 0 percent of the time), occasionally (or about 25 percent of the time), sometimes (or about half of the time), usually (or about 75 percent of the time), or always (or 100 percent of the time)⁶.

An extensive set of establishment variables were also collected from the sample, resulting in the control variables shown in table 1. The desire was to standardize for a number of characteristics which might be correlated with disability outcomes, in an attempt to further isolate the effect of the policy and practice variables. For example, a firm with multiple plants would experience some economies of scale and could be expected to experience a lower cost of providing disability prevention and management services. The percent salaried personnel at the plant would standardize for differences in the number of employees who were actually exposed to risk of injury on the job. A larger proportion of inexperienced workers could be expected to lead to a higher injury rate, other things equal, so the percentage of workers with tenure of one year or less was included as a control variable. Some industries (notably automobile manufacturing) impose

⁴ This conclusion was also supported by a pilot study sponsored by another bureau of the Michigan Department of Labor. See Habeck, et. al. (1991).

⁵ See Hunt, et. al. (1993) for full details on the methodology.

⁶ It should be noted that the frequency content of these labels is critical to the analysis, since the responses are treated as ratio scales.

safety standards on suppliers, so this variable was included to standardize for an external motivation. The presence of a union at the establishment would presumably be associated with safety performance, so it was included as a control variable. And the average hourly wage serves to standardize for the general level of investment in the establishment's workforce.

A factor analysis of the 95 behavioral items in the questionnaire guided the development of eight establishment policy and practice variables, which constituted the independent variables of the analysis. These eight independent variables are listed in table 2. While there were some surprises and disappointments among the full results, Safety Diligence and Proactive Return to Work proved to be the most powerful predictors of work-related disability incidence. Since these variables constituted the primary representation of disability prevention and management strategies among the independent variables, they will be featured here.

Safety Diligence was a 13 item scale that measured the degree to which the firm implemented good prevention practices. Proactive Return to Work was a 14 item scale which measured the involvement of the establishment in positive disability management activities.⁷ Figure 2 shows that these two sets of self-reported disability prevention and management behaviors demonstrated very strong association with differences in incidence of employer lost work days. At the average level of performance for the sample, a 10 percent difference in self-reported Safety Diligence achievement (i.e., a 10 percent higher score on the 5 point scale described above) was associated with nearly 17 percent fewer lost work days per 100 employees. Similarly, at the average level of performance, a 10 percent difference in self-reported Proactive Return to Work achievement among these 220 firms was associated with 7 percent fewer lost work days per 100 employees. Both effects were significant by conventional statistical standards. The firm conclusion was that these employer behaviors do significantly affect the level of work-related disability at the firm. Further, this conclusion was confirmed in site visits to the best and worst performers from each industry. There was a marked difference in the disability prevention and management behaviors exhibited and in the explanations given for these behaviors.⁸

Figure 3 shows another set of findings from the study. It depicts the effect of People Oriented Culture and Active Safety Leadership on disability performance level. People Oriented Culture was a 13 item scale of behaviors that represent good human relations practice. Active Safety Leadership was a 13 item set of behaviors that indicate the degree of management commitment to prevention activities at the firm. At the average level for the sample, a 10 percent difference in self-reported People Oriented Culture was associated with 4 percent fewer lost work days per 100 employees. At the average, a 10 percent difference in Active Safety Leadership was associated with between 5 and 6 percent fewer lost work days per 100 employees. Neither of these effects were statistically significant at conventional levels; however these estimates seem credible in comparison with the more direct impact measures of disability control efforts reviewed above. Further, these "labor-management relations" measures can be posited to directly affect the general climate of cooperation and mutual concern, which in turn affects claimant behavior in the workers' compensation system.

The formal conclusions of the study were as follows:

- Some employers do a better job of preventing and managing disabilities;
- They achieve it through superior safety diligence, safety training, and proactive return to work programs;
- These efforts are supported by active safety leadership and a people oriented corporate culture;
- It is a reasonable inference, supported by the case studies, that employers who adopt these policies and practices can significantly reduce their disability incidence and cost.⁹

⁷ Positive activities, because another variable (Disability Case Monitoring) represented the more punitive aspects of disability management practice.

⁸ See Hunt, et. al. (1993), chapter 5 for a discussion of these qualitative results.

⁹ Hunt, et. al. (1993)

The obvious implication of this study is that individual employers can, at least to some degree, control the level of their disability performance. It is not technologically determined by the product or service they produce. Furthermore, it seems clear that prevention efforts yield higher impacts than amelioration efforts, since the primary prevention variable in the study showed more than twice as much impact, at the mean, as the primary amelioration variable. Management has the opportunity to make conscious decisions about investing in prevention and disability management versus paying more in workers' compensation and other lost work time benefits. Obviously, from the evidence of employer interest provided earlier, this is not news. It is clear from the developing market that employers in large numbers have accepted the message that they can influence their performance in both these dimensions. So what evidence is there that this can be done on a system-wide basis?

THE OREGON EXPERIMENT

The State of Oregon, in the Pacific Northwest region of the United States, has come closest to implementing a full disability prevention and management system by statute. Table 3 indicates the scope and timing of these legislative initiatives.¹⁰ Oregon's motivation was clear, they were trying to reduce the cost of workers' compensation insurance in response to employer charges that Oregon's costs were unreasonably high, ranking 6th among the 50 U.S. states in average workers' compensation cost per \$100 of payroll in 1986.¹¹ Lawmakers in Oregon reasoned that the way to reduce workers' compensation costs without reducing benefits for injured workers would be to reduce the number of injuries, i.e. prevent workplace accidents and diseases.

Over the next several years, Oregon policy makers increased the emphasis on safety and health at the workplace in six ways:

1. Increasing the safety and health enforcement, training and consultative staff;
2. Using penalties to the fullest extent against employers who violate state safety and health regulations;
3. Requiring insurer loss prevention consultative services;
4. Providing employer and employee training opportunities through a training grant program;
5. Requiring joint labor-management safety committees; and
6. Targeting safety and health inspections more effectively.¹²

The 1987 reforms concentrated primarily on occupational safety and health enforcement and consultation efforts. The level of fines for violations of the Act was nearly doubled and a 43 percent staff increase at the Oregon Occupational Safety and Health Administration (OR-OSHA) enabled the deployment of resources to develop an extensive voluntary consultation service with employers about their accident and injury problems. This is apparent in figure 4 which shows the number of safety and health inspections and consultations conducted by the Oregon Occupational Safety and Health Administration annually from 1986 through 1994. It is apparent that the major new effort went primarily into the consultations as they increased from about 500 per year to well over 2,000 per year during this period. Meanwhile, inspections varied irregularly between 4,800 and 5,800 per year.

The consultation program involves either "comprehensive assistance" or assistance with a specific hazard. In either event, it is initiated by the employer's request. The consultation is free to the employer and is not linked to compliance inspections or other enforcement action by OR-OSHA. Customer satisfaction surveys indicate that most employers learn of the program through a business acquaintance. However, as the

¹⁰ See Oregon Department of Consumer and Business Services (1995) for full details.

¹¹ Oregon Department of Consumer and Business Services (1995)

¹² Oregon Department of Consumer and Business Services (1995) p. 1.

program has matured, previous experience with the program has become more and more important, indicating that employers are sufficiently satisfied to come back a second time. The demands of employers on the program led to a waiting period of 130 days for a consultation by late in 1993. As a result, the staffing was increased for the program, bringing the wait down to 33 days by 1995.¹³

Further, it should be noted that most of the voluntary consultations are occurring with smaller employers. Nearly 85 percent of consultations opened in 1995 involved employers with 100 or fewer employees. This is significant since this huge group of employers has proven very difficult to reach by other means, including both direct enforcement actions and indirect financial incentives. Because of their large numbers and their relatively poor performance levels, they produce the bulk of the occupational injuries and illnesses in most jurisdictions.

The 1987 reforms required insurers to offer loss prevention services to employers who experience three or more disabling claims and a claims rate above the statewide average, or for any employer with 20 or more disabling claims in a single year. They also established a “preferred worker” classification for injured workers who failed to return to work after injury by creating a three year exemption from workers’ compensation premium for such workers for any employer who hires them and puts them back to work. Financial incentives were extended to smaller employers who did not benefit from the experience rating program. Small employers in the Oregon assigned risk plan were given the opportunity to qualify for a non-experience rated credit of 11 percent, if they met certain behavioral standards.¹⁴

However, the 1987 reforms were not perceived to be bringing costs down, or at least not rapidly enough; so employers demanded more action. The 1990 reforms reflected the demands of an employer community impatient for relief from Oregon’s high costs of workers’ compensation insurance. In 1990, the Oregon legislature mandated joint labor-management workplace safety committees in all workplaces with more than 10 employees. Smaller employers are required to establish such committees if they rank in the top decile of their industry in lost workday case incidence rate, or are classified in the top 25 percent of workers’ compensation premium rates. They also set up a certification procedure for managed care organizations, to attempt to provide some objective standard by which to judge the rapidly escalating claims of such vendors. The legislation established alternative dispute resolution procedures to replace the controversial and inefficient representation by lawyers that had characterized Oregon’s workers’ compensation disputes in the past. In addition, the definition of compensability was tightened somewhat, and compromise and release agreements were allowed for the first time.¹⁵

Figure 5 shows how the Oregon injury and illness rates declined after these policy changes began to take effect. The total rate declined by 18 percent from 1988 through 1991, reaching a plateau at about 9.0 recordable injuries and illnesses per 100 full-time-equivalent workers per year. The figure indicates that there was also a decline in those injuries and illnesses involving lost work days (the more serious injuries), from a rate of 5.6 per 100 workers in 1988 to 4.4 per 100 workers in 1993 (decline of 21 percent). Further, a study by the Oregon officials involving inspection results for establishments that had previously received OR-OSHA consultation services, indicated that serious hazards found in 107 establishments during the voluntary consultation had been reduced by nearly 89 percent between the consultation and the subsequent, unrelated inspection.¹⁶ A follow-up study found that these 107 worksites had experienced an average 34 percent increase in injuries in the year prior to requesting the consultation (presumably motivating the call for help to OR-OSHA). This contrasted greatly with an average injury incidence decline of 18 percent in the two years following the consultation.¹⁷

13 Consultative Services, 1995.

14 See Ballantine and Dunleavy (1996) for more details on the specific reforms.

15 These are essentially lawyer brokered settlements of workers’ compensation claims that see the worker exchange his or her right to periodic benefit payments in the future for a lump-sum payment in the present conditional on the release of the employer and/or insurer from further liability for the alleged injury.

16 Effectiveness of Oregon OSHA Consultations in Reducing Workplace Hazards (April 1994)

17 Effectiveness of Oregon OSHA Consultations in Reducing Workplace Hazards (December 1995)

It is both gratifying and reassuring to note that occupational fatalities declined in Oregon as well. There was a rapid drop from 1986 through 1990, with a plateau from 1991 through 1993, and another significant drop in 1994 and 1995. Overall, occupational fatalities in Oregon have declined by 43 percent (from 84 in 1986 to 48 in 1995). The fatality rate has declined by 58 percent over the same period.¹⁸ Of course, some of this decline reflects the changing employment patterns in Oregon, in particular the decline of the timbering industry during this period. However, even within the logging industry, the fatality rate per 1000 employees declined from 2.1 in 1986 to 0.8 in 1994.¹⁹

Figure 6 shows how the number of “accepted disabling claims” followed these underlying trends in occupational injuries and illnesses. The workers’ compensation claim rate dropped by 38 percent between 1987 and 1994 and has reportedly held those gains since. This is also reflected in the cost of workers’ compensation insurance in Oregon. Those costs have declined every year since 1991, with a cumulative reduction of over 40 percent. By 1994, those reductions were estimated to have saved Oregon employers more than \$1.3 billion in direct costs and reduced Oregon’s cost ranking among the states from 6th to 32nd. There seems to be no question that there was a real change in the level of disability prevention and management performance across a large number of employers in many industries.

Interpretation of the causes of these changes is aided by the existence of a study devoted to just that purpose by the Workers Compensation Research Institute (WCRI) of Cambridge, Massachusetts.²⁰ WCRI focused just on the 1990 reforms, using pre- and post-reform samples of claims evaluated between one and one-half and two and one-half years after the injury in each case. WCRI determined that improved safety, including both the increased enforcement and consultation by OR-OSHA and the voluntary actions of employers and insurers, accounted for between one-third and two-thirds of the performance gains. And this was just for the 1990 reforms, which were not primarily oriented to the prevention dimension.

So, it seems clear that the type of improvement promised by the Michigan Disability Prevention Study at the individual employer performance level can also be carried through at a system level, as in the Oregon workers’ compensation reform experience since 1986. It is obviously possible for employers, both individually and collectively, to raise their performance significantly, given the concentration on the goal.

WHAT LESSONS HAVE BEEN LEARNED?

First and foremost, these two very different sources of experience and knowledge lead to the firm conclusion that the workplace is the locus of control of occupational injuries and illnesses. Employers clearly can prevent and manage disabilities at the workplace; if they develop the will, there is a way. Precious little information is available from any source to help in understanding why some employers develop the will and others do not. However, the connection to labor-management relations and human resource management style seems inescapable. Those employers who want to “do the right thing” by their employees will find that demonstrating concern for their employees’ welfare through an effective disability prevention and management program is a good way to prove their sincerity.

The second point is that the employer’s motivation is critical. Because of the cost saving potential inherent in these strategies, it is crucial that employees understand that the goal is to reduce disability costs, as well as to reduce the risks of injury for their sake. Incentives do matter, but they matter to everyone; to employers, to workers, to providers, and to insurers. Thus it is important to design in system incentives that reinforce all actors in doing the right thing. Workers should not be penalized for returning to work early or trying to cope with an alternative work arrangement, and possibly failing. Nor should they be rewarded for lingering in a disability twilight, neither fully recovered nor fully disabled, but still drawing a total disability benefit. Employers will need to realize some savings in disability costs in exchange for spending the time and/or money to improve their disability prevention and management behaviors. Providers (medical, rehabilitation, and others) should have a positive financial stake in returning the injured worker to the job, not for continuing treatments indefinitely. Insurers should be able to profit from assisting employers to improve their performance, not from simply denying benefits to the permanent partially disabled.

¹⁸ Work-related Fatalities, Oregon 1995 (July 1996)

¹⁹ Logging: Disabling Claims and Inspections: Calendar Years 1990 through 1994 (May 1996).

²⁰ Gardner, Telles, Moss (1996)

It is also clear that carrots work better than sticks to motivate both people and organizations. While there is no hard evidence of this, it seems obvious that in Oregon the consultation program has had a more significant impact on performance levels than the threat of stiffer enforcement action. The typical employer hates to be told what to do, especially under threat of punishment. Grudging acceptance is the best that one can hope for, whereas with voluntary consultation it is possible to actually turn an employer's attitude around.

The insurer role is to educate for workplace control. To the extent that the insurer thinks like a cost-plus contractor, the insurer will be part of the problem. Real risk management consists of working with clients to more effectively deal with the risks inherent in the business. What some insurers call risk management is simply risk avoidance, thereby passing the problem firm along to the next insurer or to the collective through an assigned risk pool. Workers' compensation insurers need to partner with their employer clients to show them what is possible and to help them to achieve better performance.

In the U.S., incentives are very powerful on the workers' compensation side, for all but the smallest employers. The existence of a wide range of experience modification factors is taken as a matter of course. The objective is to bring the employer's premium as closely into line with that employer's actual costs of disability as possible. However, this is not true in U.S. federal social security programs (Disability Insurance and Supplemental Security Income). As a result, there is little or no utilization of disability management techniques in the public sector disability programs in the U.S.²¹ In Canada, financial incentives are weak but seem to be growing, as the scope for experience rating is gradually widening in various provinces. Mirroring the financial incentives, the interest in disability management has lagged significantly. In Europe, financial incentives appear to be similar to those in the U.S. federal programs, but the sense of social responsibility among employers is strong. It remains to be seen whether the disability management movement will take root in Canada and Europe as it has in the United States.

So what does the future hold? Certainly more international competition, and therefore more pressure on wages and benefit programs across national boundaries. In the U.S., the disability prevention and management movement is demonstrating that merely manipulating financial incentives is not sufficient to insure good performance. A true partnership between workers and their employers is required to achieve "best practice" in preventing and managing disability.

²¹ See Hunt, Habeck, Owens and Vandergoot (1996) for a discussion of some of these issues.

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Table 1 Control Variables

- Multiple Plants
- Average Hourly Wage
- Percent Salaried
- Union
- Percent Working Rotating Shifts
- Percent with Tenure of One Year or Less
- Safety Standards
- Loss Control Consultation
- Workers' Compensation Insurance Coverage

Table 2 Interpretation of Independent Variables

People Oriented Culture

This factor represents behaviors and policies that stem from conscious decisions on the part of management to cultivate and involve its human resources in positive ways.

These decisions are reflected in:

- positive work relationships and employee morale,
- attention to interpersonal skills and open communication,
- regular and meaningful involvement of employees in company operation and decisions,
- sharing and seeking information.

It is unlikely that a culture of this type could be achieved without formal means in a large organization, but may reflect sheer force of personality of key leaders in small organizations where the operational manager has direct involvement with all employees. In large companies it is more likely to be an articulated management value with structure and process mechanisms to support and realize these aims.

Active Safety Leadership

This factor refers to the personal responsibility and participation that top management and company leaders at all levels assume for safety. This includes:

- seeing that he/she is personally knowledgeable of safety risks,
- demonstrating support of designated leaders in safety initiatives undertaken,
- implementing a system of accountability for safety at all levels to assure participation,
- modeling vigilance in the investigation of identified risks and hazards,
- continually identifying risks through a comprehensive system of data analysis and reporting,
- committing resources to address and respond to safety needs.

Active Safety Leadership operationalizes the concept of “management commitment” that is identified by practitioners as an essential aspect of successful safety efforts in any company.

Safety Diligence

This factor describes the rigorous behaviors of companies that act on their stated safety goals and put their safety measures into practice. Safety Diligence is evident in:

- excellent housekeeping and continuous equipment maintenance,
- timely investigation of risks and accidents that uses problemsolving for immediate correction and future prevention,

- constant compliance with company safety measures and the use of disciplinary action for violations,
- emphasis on safety in all aspects of plant operations.

Mastering these behaviors requires that managers, supervisors, and employees accept safety as a central part of work operations, and have integrated critical behaviors, work processes, and safety procedures as a regular part of their functions.

Ergonomic Solutions

This is a small factor of four items that represent strategies used to address ergonomic problems. These include: reducing lifting demands, reducing repetitive movements, improving work flow, and modifying tasks assigned. As measured in this factor, the strategies reflect corrective ergonomic solutions that would be utilized after a workplace problem is recognized, in contrast to ergonomic strategies that are designed into the original work environment to prevent ergonomic risks from occurring.

Safety Training

This factor consists of four items that address the provision of information about hazards and safe work practices to regular employees, newly assigned employees, temporarily assigned employees, and supervisors. The implication is that all operational employees and supervisors are informed of all relevant hazards and applicable safe work practices prior to undertaking their duties, and on an on-going basis. This set of training actions reflects what is fairly widely accepted industry practice in regard to safety training today.

Disability Case Monitoring

This factor describes administrative procedures used to monitor the validity, progress, and outcomes of a lost time case. The process involves evaluation at critical points in the disability process, in consultation with treating physicians and providers of case management and/or rehabilitation services.

The factor conveys a consistent, managerial process for monitoring disability cases by a designated representative of the company. However, the manner in which these functions are carried out can vary greatly according to the human resource philosophy of the firm and/or the interpersonal skills of its representatives. When employees perceive the motivation of these procedures to be directed solely at achieving control and cost-containment, they may in fact promote an adversarial climate.

Proactive Return-to-Work Program

This factor describes supportive, company-based interventions for personally assisting the parties involved in an injury or disability, from the beginning of the incident to its positive resolution. In a proactive program the actions and responsibilities of individuals within the company and external providers are spelled out and all are related to the resumption of employment goal. Specific aspects include:

- active involvement of the injured employee and his/her supervisor throughout the RTW process,
- creative placement strategies to accommodate and accomplish RTW,
- cooperative involvement across departments in the firm to achieve RTW,
- timely and continuous coordination of external providers with the RTW goals.

Taken together, the items describe a planned, coordinated, and proficient effort by the organization for the return-to-work of injured employees.

Wellness

This factor contains three items that indicate a company's orientation to health promotion as measured by:

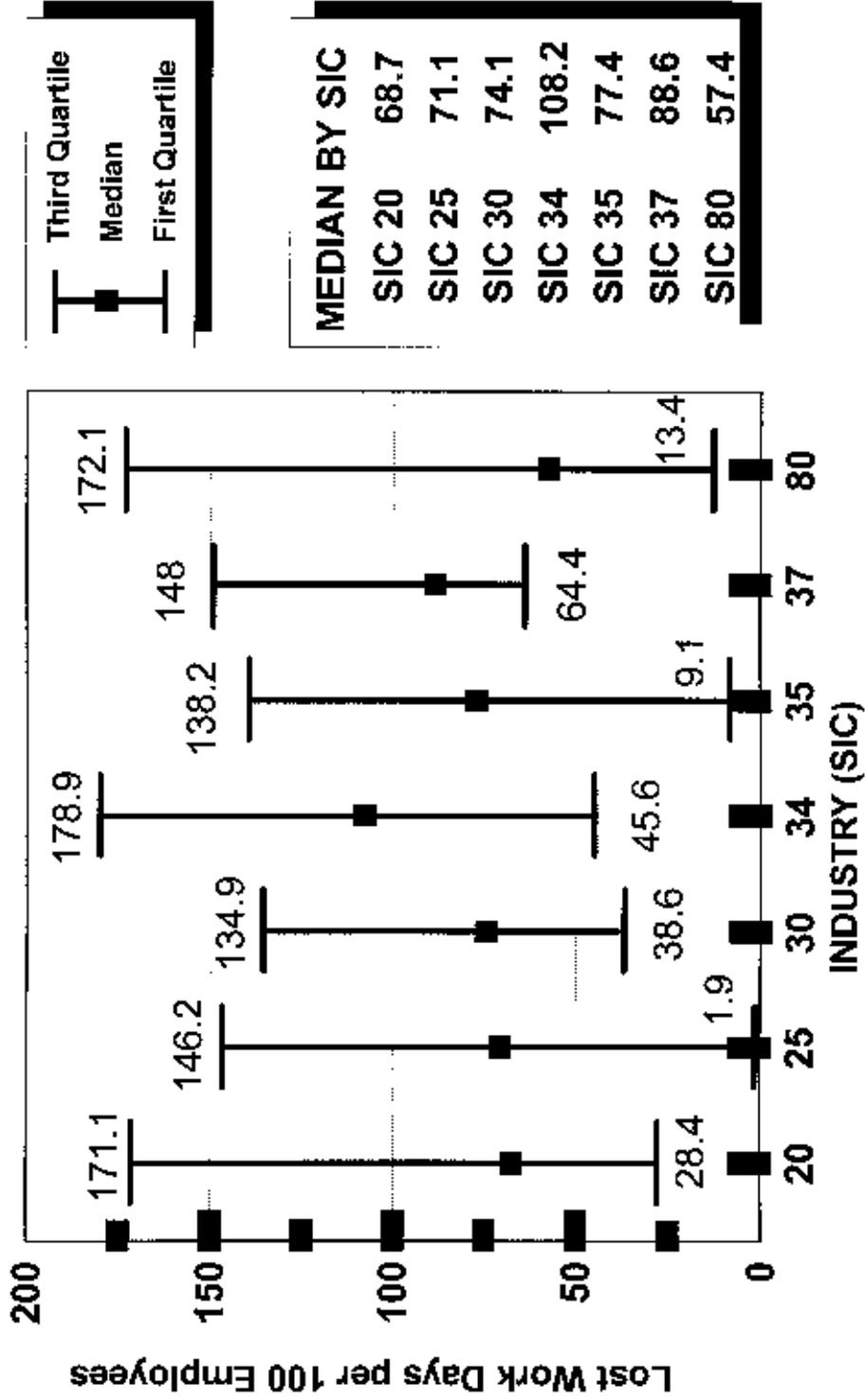
- commitment of resources, top management support and participation,
- provision of data about health status and risk factors to employees.

These indicators suggest a company that has gone beyond expressing interest in wellness and has begun to operationalize this commitment as a part of its corporate culture and its benefit programs.

Table 3 Oregon Reform Legislation

- 1987 Legislation
 - Increased S&H Enforcement
 - Increased S&H Consultation
 - Established RTW Programs
 - PPD Standards
 - Increase in PPD Scheduled Benefits
- 1990 Legislation
 - Joint Workplace Safety Committees
 - Certified Managed Care Organizations
 - Compromise & Release Agreements
 - Definition of Compensability
 - Alternative Dispute Resolution Procedures

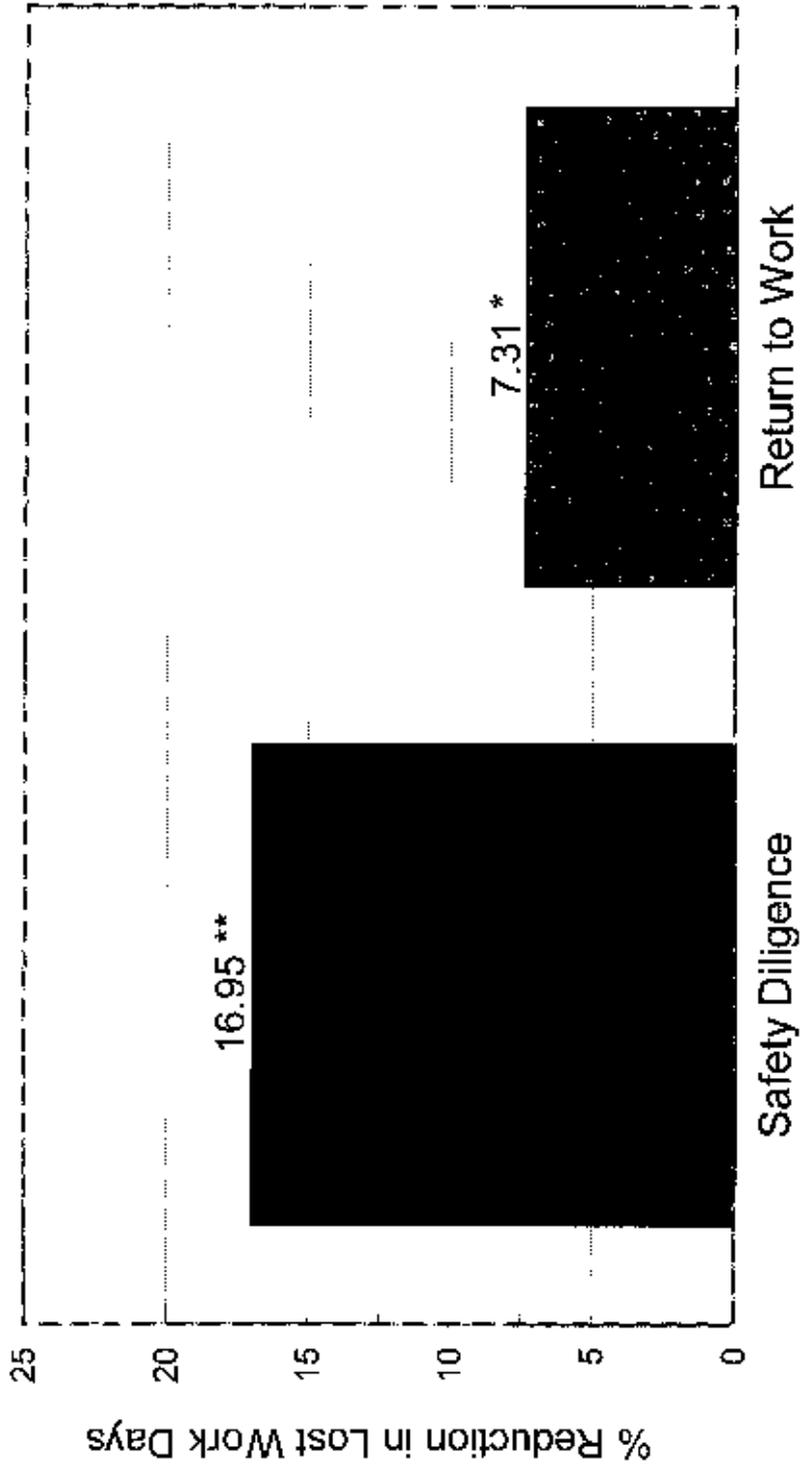
Lost Work Days per 100 Employees, by SIC



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LOST WORK DAYS PER 100 EMPLOYEES

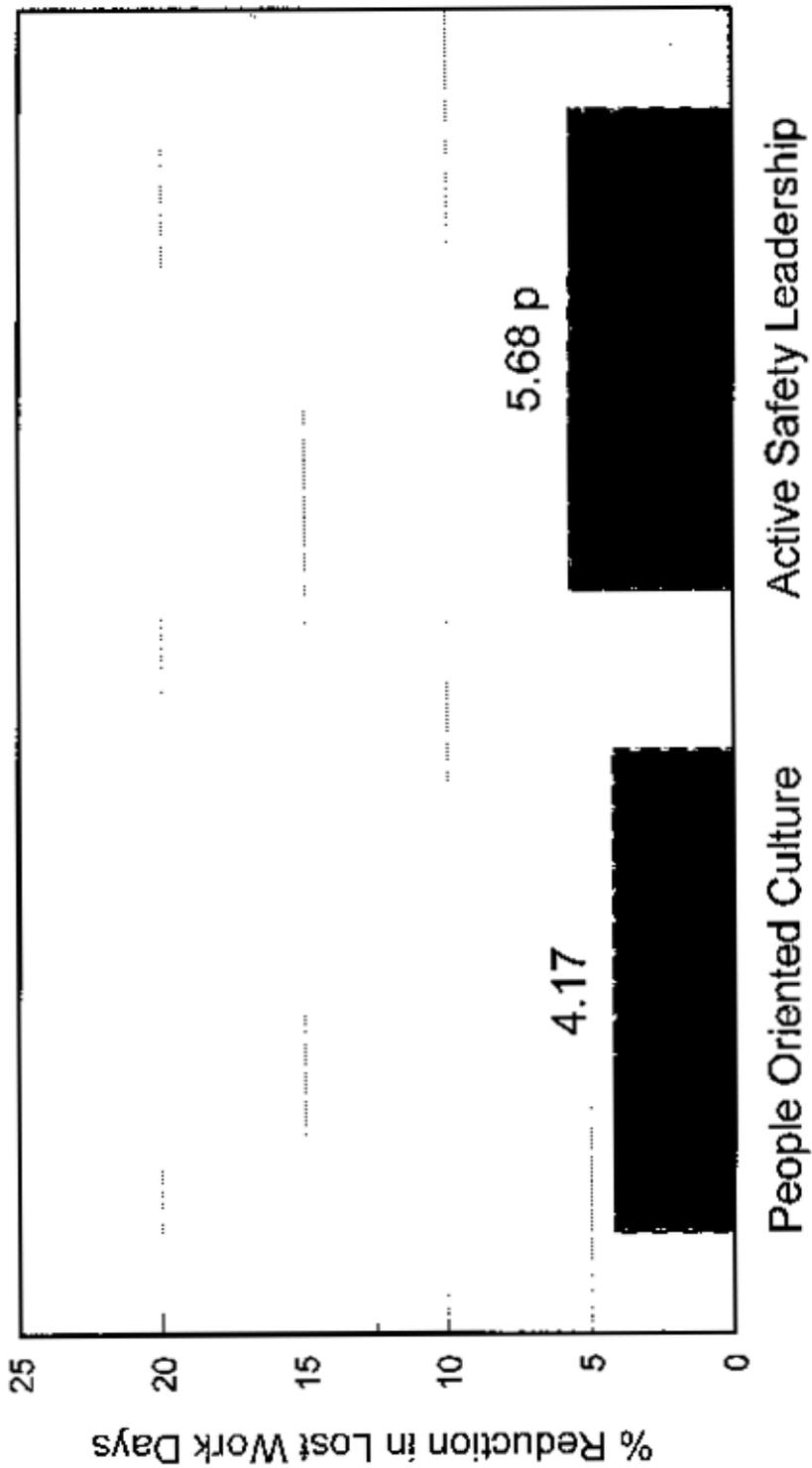
Effect of 10% Difference in Self-Reported Behavior



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LOST WORK DAYS PER 100 EMPLOYEES

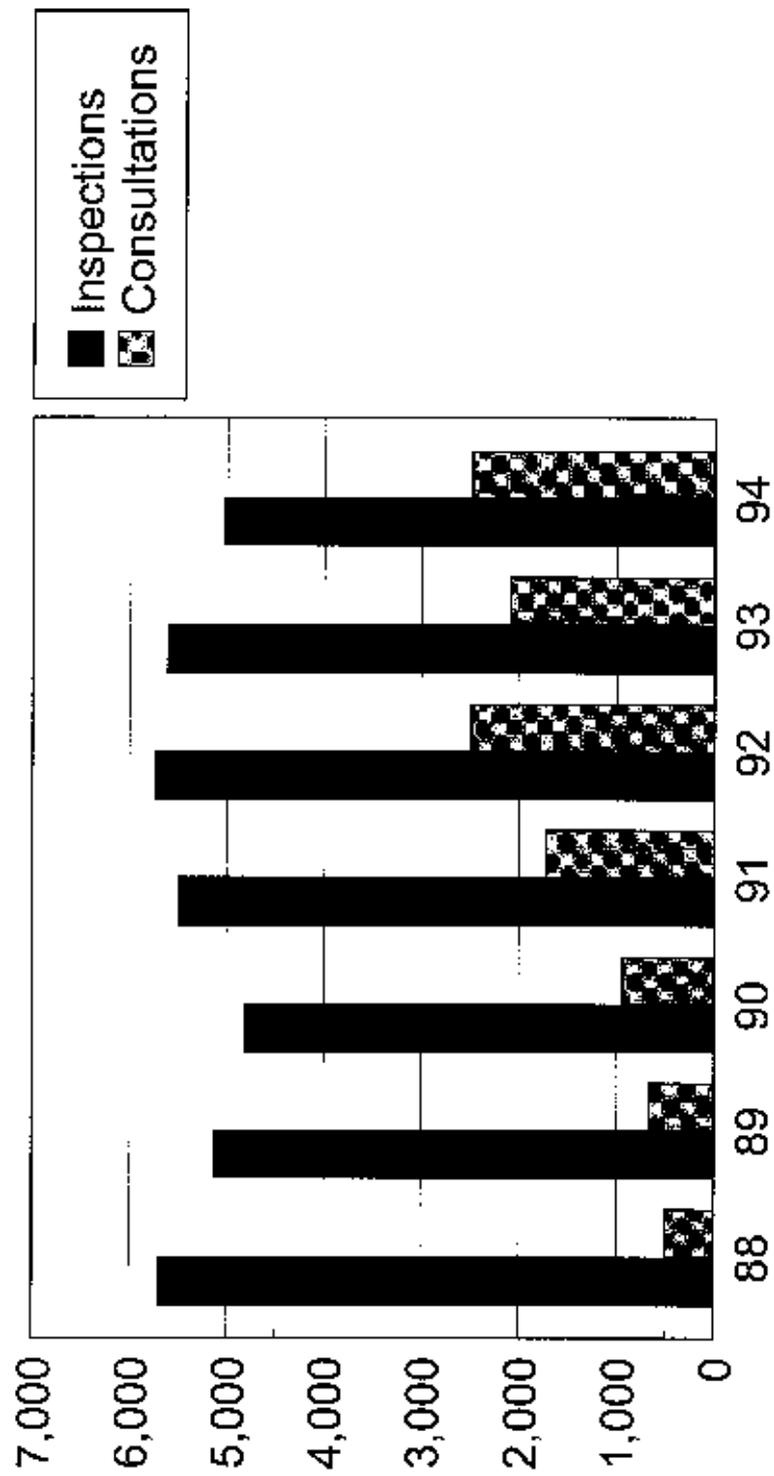
Effect of 10% Difference in Self-Reported Behavior



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DISABILITY PREVENTION & MANAGEMENT

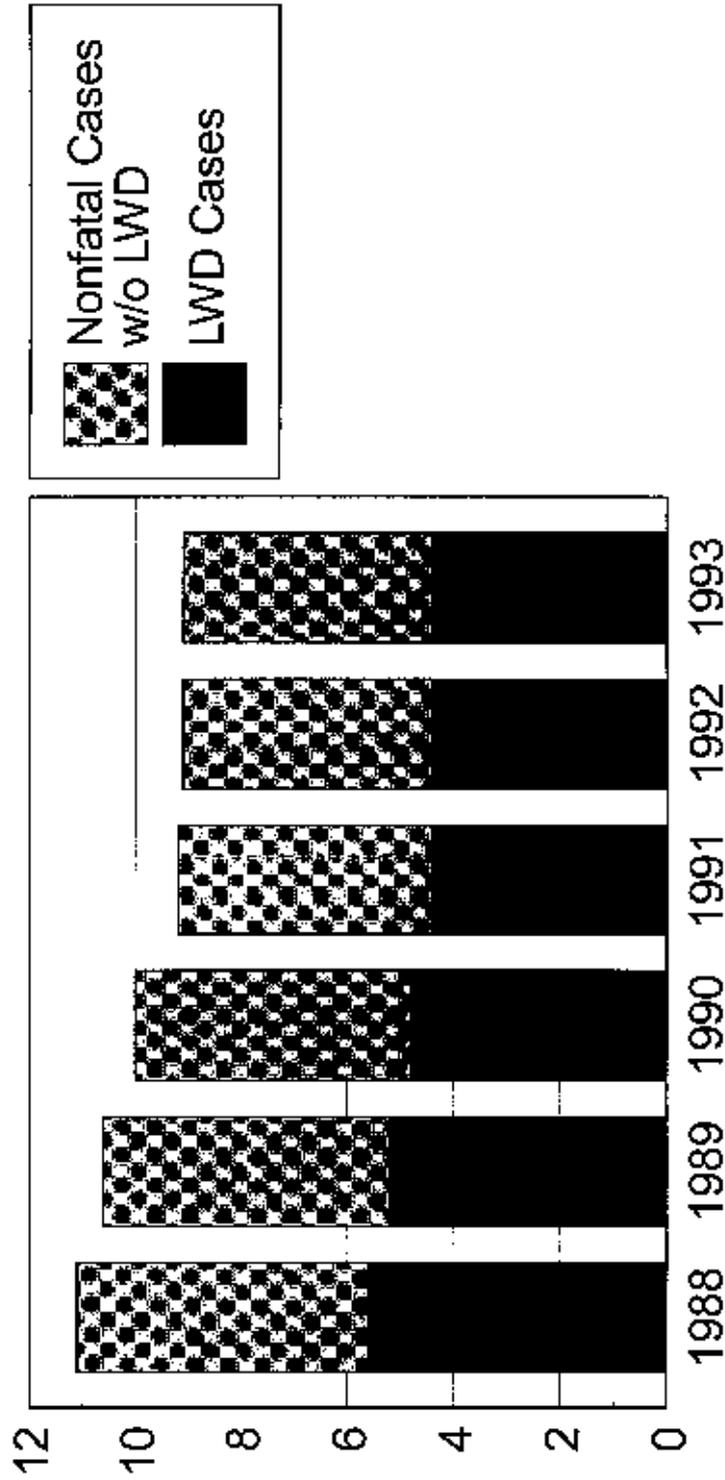
OREGON-OSHA ACTIVITY LEVELS



Source: Oregon Dept of Consumer & Business Services

DISABILITY PREVENTION & MANAGEMENT

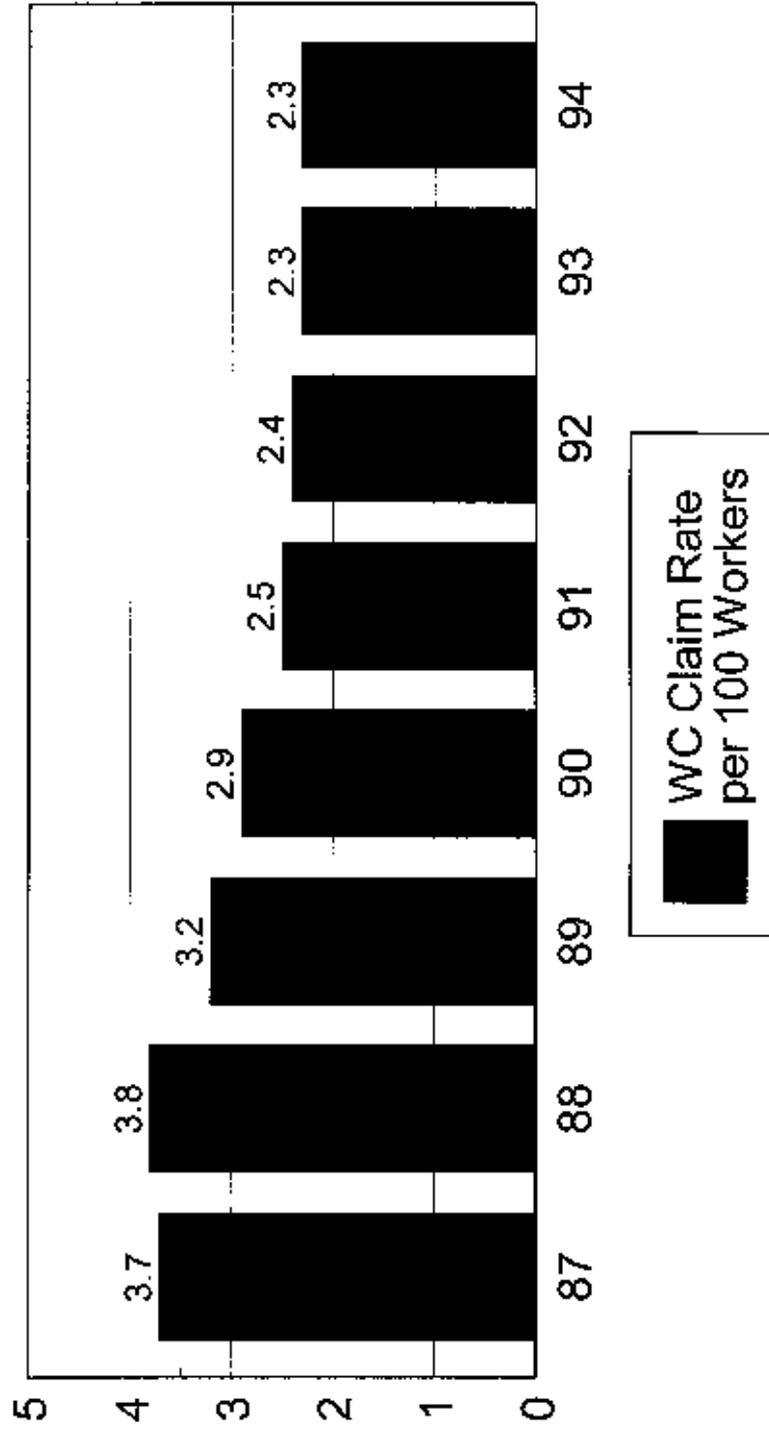
Oregon Occupational Injury & Illness Rates
Private Sector, 1988-1993



Source: Oregon Dept of Consumer & Business Services

DISABILITY PREVENTION & MANAGEMENT

Oregon "Accepted Disabling Claim" Rate



Source: Oregon Dept of Consumer & Business Services