

Effects of an Early Return-To-Work Program on the Costs of Workers' Compensation

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One of the major issues confronting employers in the United States today is the high cost associated with workers' compensation insurance. Although many factors contribute to the total overall cost of workers' compensation, the major cost driver besides medical is lost time from work which also increases injury-related costs such as indemnity payments, medical and legal expenses, and employee costs. This study compared two Early Return to Work (ERTW) programs, one with labor/management support (Toledo), and one without (Cleveland), and it evaluated each program's effect on time off work (TOW) and rehabilitation outcome. This study also investigated the following characteristics as predictors of desired outcome: program type (labor/management support and non-labor/management support), occupational group, and nature of disability.

In the 1980s, the concept of Employer-Based Disability Management and Rehabilitation began to find its way into companies in the United States. This concept had been implemented with success in businesses in other countries including Finland, Sweden, and Australia. Burlington Industries in North Carolina in 1980 was the first American company to attempt to identify and manage injury/illness in the workplace (Tate et al., 1986).

This study seeks to explore the effects of the implementation of a formalized labor/management agreement supporting the ERTW program ("supported") versus a program without a formalized labor/management support/agreement for their ERTW program ("non-supported") on time off work (TOW) and rehabilitation outcomes. I use the case of the city of Cleveland, Ohio as a model for a non-supported ERTW program, and the city of Toledo, Ohio as a model for a supported ERTW program. This study will investigate the relationship between the implementation of an Early Return to Work program as a component of an Employers' Disability Management program and its effects on one of the cost drivers affecting their compensation cost (lost time).

The purpose of this study is to determine to what extent there is a relationship between ERTW and the length of time off work (TOW) and successful return to

work (outcomes). This study will seek to find which of the following characteristics were predictors of desired outcomes:

1. Program type (labor/management support and non-labor/management support);
2. Occupational group; and
3. Nature of disability.

This study evaluated a sample of workers employed by the metropolitan municipalities of Cleveland and Toledo in the state of Ohio who were involved in a state-funded workers' compensation system between the years 1998 and 2000.

Statement of the Problem

A review of the literature indicates that escalating workers' compensation and health care costs are threatening the survival of businesses. Many businesses and companies feel unable to do anything to control these rising costs. Others have been forced out of business as a result of not being able to afford to handle these costs, and it can be assumed that these costs have served as a deterrent to some in considering starting a business at all. In addition, because of the rising costs associated with workers' compensation and the Americans with Disabilities Act, employ-

ers now more than ever feel the need to take control of their disability-related policies and costs. The need to implement a program of cost containment is seen as a way of stemming this rise in costs. According to Growick (1998), Breslin and Olsheski (1996), and Elias and Growick (1994), one way to accomplish this task is to establish a company-based Early Return to Work program (ERTW) as a component of an employer's Disability Management Program.

Lost time, the amount of time an injured worker is away from the job, impacts heavily on the employer's workers' compensation cost in a variety of ways. In addition to direct costs associated with time off from work, there are a number of indirect costs to both the injured worker and the employer. For the injured worker, these include loss of self-esteem as a result of being isolated from his/her peers, emotional and psychological distress affecting the worker's family and friends, and a sense of worthlessness due to being deprived of one's occupational role in society. For the employer, these indirect costs may include the cost of hiring and training a temporary replacement for the injured worker, possible decrease in productivity and earnings stemming from leaving the injured worker's position vacant, decrease in quality of production and morale, and increase in use of time off (sick, vacation) by other workers whose work loads increase when they are expected to cover for the injured worker.

Purpose of the Study

The purpose of this study is to determine to what extent there is a relationship between a Early Return to Work program as a component of an employer's Disability Management program and the length of time off work (TOW) and successful return to work (outcomes).

Significance of the Study

The employer's ability to impact workers' compensation costs has wide-reaching implications in the workforce. Determining the impact of ERTW on time off work and outcomes will guide rehabilitation professionals, employers, Disability Management companies, managed care organizations, insurance firms, and other professionals providing assistance in the worker's compensation arena to develop effective ERTW programs whose goal is to manage lost time—that is, return injured workers safely and effectively back to work, and reduce workers' compensation costs for the employers.

Rehabilitation professionals, insurance companies, employers, and public and private rehabilitation companies and agencies need to have knowledge of what characteristics predict return to work in a workers'

compensation setting in order to increase programmatic emphasis on those program characteristics that affect time off work (TOW).

Research Questions

In the following research questions, the term "time off work" (TOW) refers to the time between injury and return to work. The term "outcome" refers to whether the worker returned to his/her pre-injury occupation or not.

1. Did the type of Early Return to Work program make a difference in the length of time off work (TOW)?
2. Did the type of Early Return to Work program make a difference in employment outcome?
3. Did the type of occupation make a difference in the length of time off work (TOW)?
4. Did the type of occupation make a difference in the outcome of employment?
5. Did the type of injury make a difference in the length of time off work (TOW)?
6. Did the type of injury make a difference in the outcome of employment?

Limitations

Internal Validity

This study was conducted post hoc with all of the data obtained from files maintained by several entities including the employer, the managed care organization responsible for providing overall case management services, the state bureau of workers' compensation (BWC) responsible for management of workers' compensation claims, and the office of this researcher, which was responsible for vocational case management services for the city of Cleveland.

There are two major threats to internal validity that are associated with the design used in this research. These include selection and mortality. Regarding selection, there may be biases resulting in differential selection of participants for the comparison group. In attempting to minimize selection bias in this study, individuals included in the comparison group will be taken from the same three divisions of a municipal employer from both cities, have an allowed lost time claim and have the same ICD-9 diagnosis codes. Information for both groups will be reviewed during the same 24-month time period. No comparison will be made for employee characteristics such as age, gender, race, education, tenure or non-claim related medical issues.

The threat to mortality via loss of subjects is also of concern. Frankel and Wallen (1993) state that the loss of subjects is probably the most difficult threat to internal validity to control and is especially a concern in intervention studies as the manipulation takes place over time. Since participation in Rehabilitation Services is voluntary, individuals in the treatment group may discontinue at any point during the implementation of their Rehab Plan (IWRP)/ERTW program. Without explanation, it cannot be determined whether their actions were related to the treatment or other factors. Exacerbation of the injury or a new injury is other circumstances under which individuals may drop out.

In addition to the two threats to internal validity that are associated with the research design, there also are the following threats to internal validity based on data collection, experimenter bias, and participants considered for the study:

1. Although all parties are mandated to follow the state regulations for workers' compensation, individual internal needs and requirements may lead to differences in data collection methods and reporting processes. This threat to internal validity is minimized somewhat as representatives from all parties attend training sessions sponsored by the state BWC and receive copies of the policy manual developed for this process.
2. There may also be experimenter bias due to the fact that this researcher was one of the service providers and some of the data came from files maintained by his staff and reviewed by him for this study.
3. During the time period included in the data set, a number of employees were referred for vocational services more than once either for re-injury of a previously allowable claim or for a new injury. No distinction was made with regard to this, and each referral was counted independently of any other prior referral, which could present a threat to the internal validity of this study.

External Validity

Based on the research design, a major concern regarding external validity is the interaction effects of selection biases and the treatment (experimental variable). Threats to external validity include the following:

1. Participation in vocational rehabilitation is voluntary in the state of Ohio and the findings are based only on those injured workers who have voluntarily agreed to participate. There is no way of predicting what impact this self-selection has on the overall findings of this study.
2. This study was limited to employees of only one employer in each city (Cleveland and Toledo). Gen-

eralization of the results to other employers' experience should be done with caution.

3. The participating employers were involved in the state-funded workers' compensation program. Generalization to employers outside this program (i.e., the self-insured) may be limited.
4. Demographics such as age, sex, race, education, job title, type of injury or history of prior work related injuries were not controlled in this study.

The objectives of the Early Return to Work/ Transitional Work program for both cities included the following:

1. Promote the early referral of the injured worker to the rehabilitation process,
2. Promote Early Return to Work program, which will minimize the results of injury and effect the safe return of an injured worker to full employment;
3. Reduce the costs of rehabilitation and the cities' workers' compensation premium rates; and
4. Reduce the number of days off work due to lost time.

Rising medical costs associated with disability, the aging American work force, and disappointments experienced due to reliance on third party insurance and claims administration resources are a few of the factors causing labor and management to take a more active role in managing disability (Bruyere & Shrey 1991).

As workers' compensation costs continue to contribute to increasing health care costs for businesses, it became necessary to devise strategies that can assist employers in gaining control of these costs. Research has shown that a formalized return to work program that is a component of their Disability Management program may assist in reducing their compensation cost.

Breslin and Olsheski (1996), Shrey and Olsheski (1992), Habeck, Leahy, Hunt, Chan and Welch (1991), Bruyere and Shrey (1991), Tate, Habeck and Galvin (1989), among others, found that uncontrolled lost time prolongs the worker's disability experience by eroding the employee's identity as a worker and leads to deterioration of the worker-employer relationship. Rising medical costs associated with disability, the aging American work force, and disappointments experienced due to reliance on third-party insurance and claims administration resources are a few of the factors that cause labor and management to take a more active role in managing disability.

The negative impact of prolonged work disability on employees and employers alike was compounded by an accompanying decrease in the probability of early return to work (Snook & Webster, 1987; Krause &

Ragland, 1994; Scheer, Radack et al., 1995). In fact, it is the minority of workers with long-term disability, who account for the majority of workers' compensation costs (Snook, 1988) to offset this dilemma many employers instituted modified work or Early Return to Work programs for temporarily or permanently disabled workers as part of their Disability Management program.

Components of a Disability Management Program

Tate, Habeck and Galvin (1989) and Habeck, Leahy, Hunt Chan and Welch (1991) reported that Disability Management programs consist of several components, each one essential to contributing to the overall effectiveness of the program. They identified the following components as central elements of a Disability Management program:

1. Top management commitment and supportive policies;
2. Education and involvement of employees at all levels, including union participation from the outset;
3. A coordinated team approach across departments for effective claim management and job placement;
4. Active use of safety and prevention strategies to avoid disability occurrence;
5. Early intervention and ongoing monitoring for health risks and disability cases;
6. Systematic procedures for effective use of health care and rehabilitation services;
7. An organized return-to-work program with supportive policies and modified duty options;
8. Use of incentives in benefit design, cost accounting, and performance evaluation to encourage participation of employees, supervisors, and managers; and
9. An integrated management information system to monitor incidence, benefit use, services, cost, and outcomes. (Habeck, Leahy, Hunt, Chan, & Welch, 1991, p. 212)

Schwartz, Watson, Galvin and Lippoff (1989) wrote that disability management involves the use of services, people, and materials to minimize the impact and cost of disability to employers and employees and encourages return to work for employees with disabilities. Shrey and Lacerte (1995) in their book entitled *Principles and Practices of Disability Management in Industry* defined "Disability Management" operationally as "an active process of minimizing the impact of an impairment (resulting from injury, illness, or disease) on the individual's capacity to participate competitively in the work environment" They identified

three basic principles governing the disability management process:

1. It is a proactive (not passive or reactive) process.
2. It is a process that enables labor and management to assume joint responsibility as proactive decision-makers, planners, and coordinators of workplace-based intervention and services.
3. It promotes disability prevention strategies, rehabilitation treatment concepts, and safe work-return programs designed to control the personal and economic costs of workplace injury and disability. (Shrey & Lacerte, 1995, p. 5)

For the Second Biennial Towers Perrin Survey, 1,050 employers nationwide responded to issues relating to strategies they had implemented in attempting to regain control of workers' compensation costs. In citing strategies engaged in reducing costs between 1991 and 1993, companies reported using the following strategies:

- Pre-certification of medical treatment
- Case management
- Negotiated provider discounts
- Utilization review
- Use of HMO/PPO other managed care
- Coordination with group health
- Fee schedule compliance
- Medical bill audits
- Claim administration
- Return to work program
- Vocational rehabilitation
- Safety initiatives and injury prevention
- Post employment-offer screening

Of the 13 strategies listed above, the current study focuses on the return-to-work program. According to the survey by Towers and Perrin (1993), implementation of these 13 disability management strategies was found to be effective in reducing costs by 80%. This suggests that by implementing cost-containment strategies, employers can have an impact on workers' compensation costs. A comprehensive Disability Management program, which would include a combination of several or all of the above strategies, would have a significant impact on reducing an employer's medical and lost-time cost.

Early Return to Work Programs as a Component of a Disability Management Program

The Transitional Work/Early Return to Work program evolved as a result of past vocational rehabilitation return to work practices such as the work adjustment program, work hardening program, light duty program, and modified duty program, to name a

few. These programs were relatively effective, but they lacked coordination and were somewhat fragmented within the work environment. In the case of light duty programs, the assignments would turn into a permanent placement, which was not the goal of the program, and it became difficult for the employer to support the placement.

Shrey and Lacerte (1995) surmised that disability management was best characterized through employer-based Transitional/Early Return to Work programs. They defined Transitional Work programs as "integrating any combination of job tasks and functions which may be performed safely and with remunerations by an employee whose physical capacity to perform functional demands has been compromised" (p. 6). Shrey and Lacerte (1995) identify the following components as essential parts of a Return to Work program:

1. Objective worker evaluations;
2. An analysis of job tasks and physical functions;
3. Designated jobs or transition units; and
4. A gradual work-return plan that increases the workers' capacity to return to full-duty. (Shrey & Lacerte, 1995)

The Towers Perrin Report (1993) entitled "Regaining Control of Workers' Compensation Cost: The Second Biennial Report, 1993" reported that based on their survey, 78% of the 1050 respondents indicated that they use Early Return to Work programs during disability as an initiative to control workers' compensation costs (p. 8). They further reported that this number had grown since their first report in 1991. In addition, they reported that 85% of those responding indicated that an Early Return to Work program was one of the most effective initiatives in controlling workers' compensation costs (p. 9).

Shoemaker, Robin and Robin (1992) conducted a survey of 248 private corporate managers in Michigan, and found that 55.7% of the corporations reported either having implemented an Early Return to Work policy (41.5%), having adopted but not yet implemented one (6.5%), or were considering one (7.7%). The remaining 26.6% of the corporate managers who responded reported that they had either rejected the idea of an Early Return to Work program (15.7%), or were considering one but were themselves not favorably disposed toward it (10.9%).

Benefits of Early Return to Work programs in reducing medical and indemnity costs (lost time compensation payments) were highlighted by Groepper (1993), who reviewed several thousand cases handled by an insurance company. Groepper (1993) found that employees participating in an Early Return to Work program were back to work in one half the time as compared to employees who had no early return to work options.

Krause, Dasinger, and Wiegand (1997) at the RAND Institute for Civil Justice conducted a study at the request of the New Mexico Workers' Compensation Administration entitled "Does Modified Work Facilitate Return to Work for Temporarily or Permanently Disabled Workers?" The main findings of their review were that Modified Work programs facilitate return to work for temporarily and permanently disabled workers. Those employees with access to modified return to work after a disabling injury were able to return to work about twice as often as employees without access to any form of modified duty. Krause, Dasinger, and Wiegand (1997) further surmised that the number of lost work days per disabling injury is also reduced by a factor of two, when companies implement Modified Work programs. However, they indicated that these estimates were based on a small number of studies of modest methodological quality and that they needed to be confirmed by higher quality studies. They recommended that future studies should include but not be limited to:

"(1) standardization and quantification of modified work programs, (2) use of concurrent external control groups, (3) measurement and multivariate analyses of potential confounding factors, (4) sufficient follow-up time to assess sustained return to work over longer periods, (5) simultaneous assessment of multiple outcome measures, and (6) comparisons between different types of modified work" (Krause, Dasinger, & Wiegand, 1997, p. 5).

Characteristic of an Effective Early Return to Work Program

Top Management Support/Program Evaluation

A review of the literature also suggests, it was not enough to have an ERTW program in place, but that program must be structured and formalized, and the process for implementation of the program must be focused and systematic. Open communication and commitment between the key stakeholders is essential to ensure success. Included in the structured and systematic approach to the development and implementation of an ERTW program has to be a program evaluation component to evaluate the effectiveness of the program and assure quality (Evangelista-Uhl & Loomis, 1999).

Incentive

The literature suggests that wage continuation should be part of an ERTW program. This would serve as an incentive to get injured employees to participate in the program and encourage rehabilitation, especially in those states where participation in rehabili-

tation is not mandatory. According to Towers-Perrin (1993), many employers reported that they use supplemental wage replacement to injured workers that equals or nearly equals their pre-injury pay. However, Towers-Perrin (1993) cautioned employers who use this practice by indicating that the supplemental wage replacement benefit should not exceed the former employees' take-home pay, in as much as paying out a richer benefit, may be a disincentive to return to work.

Network of Providers

In addition to the structural components of an ERTW program, the literature suggests that external issues that encompass the process also need to be considered. One area is the providers of the therapeutic component associated with the ERTW program. According to Towers and Perrin (1993) and Scammell and Booth (1997), a network of healthcare providers who are knowledgeable about the unique needs of the organization in the workplace needs to be established.

Early Intervention

Early identification of employees who may benefit from an ERTW placement is critical in the return to work process. It has been widely acknowledged in the industrial rehabilitation community that the sooner you are able to get an injured employer involved in the rehabilitation/return to work process, the better the results will be. Additionally, numerous studies and research has shown that the longer an injured worker is away from the workplace, the less likely he or she is to return to work.

Mulholland, Sniderman, and Yankowski (1994) reported that an important distinction among Early Return to Work programs is the length of time, which elapses between the time of the initial injury and involvement in an Early Return to Work program. Studies of early referral to rehabilitation have shown that the longer employees are off work on disability, the less likely they are to return to work at all. After six months, it was found that only 5% of injured workers return to work. Interestingly enough, few companies make participation in rehabilitation mandatory. In California where vocational rehabilitation is mandatory, employers realized an estimated \$208 million in savings after implementing an Early Return to Work program.

King et al. (1995) in reviewing the literature and obtaining information from companies in Texas wrote "There is a remarkably strong consensus among workers' compensation and VR policymakers and program staff, private rehabilitation professionals, employers, workers and researchers about some of the more essential elements of RTW and related policies. Such a consensus exists in few policy areas as it appears to

surrounding RTW. Important related elements of this consensus include the following:

Disability (risk) prevention, rather than disability management, is key. Expanded education for both the medical and business communities could yield substantial benefits for the workers' compensation system, employers, carriers and workers.

Early intervention, once an injury has occurred, is absolutely vital to injured workers' success in returning productively to the workplace. Fostering trust and mature, cooperative relationships the key players involved in the system, especially employers, workers and the public entities responsible for serving them is essential as well."

As Growick (1998) states in his multi-part series of articles in the workers' compensation publication entitled "Cost Control," as a result of the rising healthcare, workers' comp, and litigation costs, companies have felt the need to take control of their policies regarding disability. One solution they have found was the development of ERTW that can not only reduce workers' compensation costs, but also helps employers to comply with the Americans with Disability Act (ADA). Growick (1998) further indicates that the most important aspects of an ERTW program is time (TOW) and conciliation (outcome). He writes, "In workers' comp, time is your enemy; the longer an employee is off work, the more costly it is. The sooner you can intervene in a case, the better- and the best way is through an ERTW program" (Growick, 1998, p. 1).

Like Growick (1998), Taylor (1992) also argues for ERTW. As he suggests, one component of a comprehensive Disability Management program that has been shown to be effective in helping to reduce workers' compensation costs for the employer is the development of an Early Return to Work program. These programs help the injured worker to return to work under medical supervision, and perform modified jobs within their post-injury physical and medical capabilities, the rationale being that the sooner the worker returns to the workplace in any capacity, the more he or she is to return to regular employment, which clearly benefits both the employee and the employer.

Disability Types and Return to Work

Butler, Johnson, and Baldwin (1995) in their study entitled "Managing Work Disability: Why First Return to Work is not a Measure of Success" found that except for severe cases, the direct physical effects of injuries do not determine whether or not an injured worker returns to stable employment. They surmised that the nature of injuries influence return to work outcomes only partially, and offered a set of conditions that affect the return to work process. These condi-

tions include workers' characteristics, workplace accommodations that offset the limiting effects of impairments, employers' incentives to accommodate injured employees, and the employees' work environment.

A review of the United States Bureau of Labor Statistics (1998) study entitled, "Lost-work Time Injuries and Illnesses: Characteristics and Resulting Time Away From Work," reported the following results regarding disability type and lost-time from work: The trunk, including the back, was the body part most affected by disabling work incidents in every major industry. Most other injuries and illnesses were to the upper or lower extremities. Sprains and strains were reported as being the leading nature of injury and illnesses by far in major industry. More than 4 out of 10 injuries and illnesses resulting in time away from work in 1998 were back sprains or strains. As in preceding reports, the number of cases involving sprains or strains declined by nearly 26% from 1992 to 1998. Among the major disabling injuries and illnesses, median days away from work were the highest for carpal tunnel syndrome (25 days), fractures (21 days), and amputations (18 days).

A review of the United States Bureau of Labor Statistics (2001) study entitled "Lost-work Time Injuries and Illnesses: Characteristics and Resulting Time Away From Work" reported the following results regarding disability type and lost-time: The trunk, which includes shoulder and back, was by far the part of the body most affected by work incidents, accounting for 36.5% of all cases. As in the preceding ten years, more than 4 out of 10 injuries and illnesses resulting in lost days from work in 2001 were back sprains or strains. The number of cases of sprains and strains declined by 34.5 % from 1992 to 2001. From 2000 to 2001, the number of lost workday cases due to amputations decreased by 10.8 %, while cases involving bruises and contusions declined by 10.1% and those involving sprains and strains fell by 8.0%. Sprains and strains, although showing a decline of nearly 60,000 cases from 2000, continued to be the leading nature, or physical effect, of injury and illness in every major industry.

The service industries reported that musculoskeletal disorders (MSD) accounted for 25.8 % of all cases. Manufacturing industries reported 22.9% of all MSD cases. Among the most frequent events or exposures, repetitive motion, such as grasping tools, scanning groceries, and typing, resulted in the longest absences from work—a median of 18 days, down from 19 in 2000. Since 1992, the median days for this event ranged from a low of 15 to a high of 20. Injuries to the wrist resulted in the longest absences from work - a median of 13 days—followed by injuries to the shoulder—a median of 12 days.

According to the literature reviewed, it does not appear that the type of occupation affects early return to work. However, the literature suggests that the type of ERTW program does have a significant effect on early return to work. One of the key components needed for a successful Early Return to Work program is for labor and management to work together. This study will examine the effectiveness of such a finding in comparing the ERTW programs in the Municipalities of Cleveland and Toledo, whose ERTW programs are different in structure (supported vs. non-supported).

Methods

Lost time from work has been identified as a major cost driver in disability costs. Companies have developed Early Return to Work (ERTW) programs as one strategy to impact on these high costs. This study seeks to explore the effects of the implementation of a formalized labor/management agreement supporting the ERTW program ("supported") versus a program without a formalized labor/management support/agreement for their ERTW program ("non-supported") on time off work and rehabilitation outcomes. I use the case of the city of Cleveland, Ohio as a model for a non-supported ERTW program, and the city of Toledo, Ohio as a model for a supported ERTW program. This study will investigate the relationship between the implementation of an Early Return to Work program as a component of an Employers' Disability Management program and its effects on one of the cost drivers affecting their compensation costs (lost time).

Characteristics of the Two Programs

The main differences between the two programs (in Cleveland and Toledo) is (1) whether they were supported by labor/management, (2) the way in which workers enter the program, and (3) payment of wages while in the program. Entrance to the program for both cities required the approval of the Physician of Record (POR). The physician of record is the physician selected by the injured worker as the primary care giver. Both programs require the identification of a modified duty/temporary work assignment. This modified duty/temporary work placement would be located at the injured worker's place of employment. Functional capability identified by the physician of record determined the modified duty/temporary work assignment. While in modified duty/temporary work assignment, aggressive physical restoration services were provided.

Both programs offered incentive for the injured worker to participate in the ERTW program in the form of wage continuation (payment of regular wages). Payment of regular wages in both ERTW programs was based on the injured worker agreeing to

participate in the program once his Physician of Record had released the injured worker for modified duty assignment.

Data Collection

The State of Ohio's Bureau of Workers' Compensation was the primary driver of the collection of data. The Rehabilitation Department of the Bureau of Workers' Compensation in Ohio developed and disseminated the coding format. The Managed Care Organizations in both cities distributed the coding system to their contractors and monitored the system, with the exception that the injury type was reported differently by the two cities.

Permission for using human subjects was obtained from The Ohio State University's Research Department. Permission to use the data obtained from both cities was obtained from the Risk Manager/Workers' Compensation Manager of the Cities.

Data regarding injured worker status was obtained from the files of the Managed Care Organization (MCO), which has been selected by the municipalities to manage their workers' compensation claims. Data related to workers participation in the ERTW program will be obtained from the Rehabilitation provider and the employer. All forms used in the collection of data for rehabilitation services are standardized documents developed by the Ohio Bureau of Workers' Compensation.

Method of Data Analysis

The data was received in printout form and CD format. The data was first imported into Excel and then GB-Stat for Windows [Computer Statistical Software] Silver Spring, MD: Dynamic Microsystems, Inc. (1995).

Descriptive statistics were run on each of the following: (a) demographic variables, (b) type of injury, (c) outcome, (d) lost time days, (e) time off work, (f) etc.

An alpha level of 0.05 was established *a priori* for all statistical tests of significance. A Chi-square test was run to compare the labor/management support group to the Non-labor/management support group of the ERTW program as to outcome. For the dependent variables of time off work (TOW), t-tests were run to compare the labor/management support group to the Non-labor/management support group. ANOVA tests were run to compare the three occupational groups as to the dependent variables of time off work (TOW). ANOVA tests were also run to compare the three injury categories as to the dependent variables of time off work (TOW).

Research Design

The design of the study is static group comparison, which is a pre-experimental design. Although there are specific weaknesses to this design, it was selected as the treatment has already occurred and there can be no manipulation of the variables. This researcher is attempting to determine if any differences found between the two groups being compared can be associated (correlated) with the treatment. In this design one group experiences a treatment (X) and is compared to another group, which has not experienced X for the purpose of establishing the effect of X (Campbell & Stanley, 1963).

Both groups were measured over the same period of time and both received the same treatment. In the static group comparison design, there is no formal means of certifying that the groups would have been equal had it not been for X. The groups are pre-existing thus there is no random assignment and no pre-test measure.

For this study, Group 1 consisted of injured workers in the City of Cleveland (City One) from the Divisions of Police, Fire, and the Emergency Medical Services who did not participate in a Labor/Management-supported ERTW program (X). They were compared with a similar group of injured workers from the City of Toledo (City Two) the division of Police, Fire, and Emergency Medical Services who participated in a Labor/Management-supported ERTW program.

Conclusion And Implications

The purpose of this study was to determine to what extent there is a relationship between an Early Return to Work program as a component of an employer's Disability Management program and the length of time off work (TOW) and successful return to work (outcome). The general questions this researcher sought to answer included the following: Is there a relationship between ERTW and the length of time off work (TOW) and successful return to work (outcome)? To what extent do the type of ERTW program, type of occupation, and nature of disability have an effect on the length of time off work (TOW) and outcome?

The sampling frame in this study consisted of 310 injured workers employed by the metropolitan municipalities of Cleveland and Toledo in the state of Ohio who were involved in a state-funded workers' compensation system and participated in an Early Return to Work program between the years 1998 and 2000. The participants were dropped from the study if they were miscoded or their dates were not consistent.

The following will discuss the results of the study question-by-question and will examine the effects of the results.

Question 1: Did the type of Early Return to Work program make a difference in the length of time off work (TOW)?

To see if there was a relationship between program type and time off work (TOW), a t-test was performed. A significant difference was found with the t-test value being -9.92 ($p = 1.985$). Thus the null hypothesis was rejected. The point bi-serial correlation indicates a large association between program type and time off work, suggesting a strong correlation with type of program and time off work.

The results indicate that the type of program (supported versus unsupported) made a significant difference in the number of days that the participants from the various occupations were off work (TOW). The City of Toledo's Early Return to Work program (supported) participants was off work for fewer days (24 days total) than the participants in the City of Cleveland's (non-supported) Early Return to Work program (95.9 days total).

The researcher attributes this wide variance in lost time to the structure of the two programs. The City of Toledo's program, which had top management and labor support in the form of a written contract agreement, was able to get employees involved in the Early Return to Work program at the time of injury per their contract. In contrast, the City of Cleveland, which did not have a written, formalized agreement between top management and labor, had to develop a rehabilitation plan, which would include employers' incentives to have their injured workers participate in their Early Return to Work program. This process would take anywhere from 30 to 60 days.

There does not appear to be any other differences between the two programs, as both required the physician of record's approval before the injured worker was released for light/modified duty assignments. The City of Toledo's program, through a written agreement with labor and management, had the light/modified duty assignment written into the contract, and this assignment was carried out without negotiation. In contrast, the city of Cleveland, which relied on incentives to acquire the participation of the union and management, had to negotiate the development of a light duty assignment through the development of a rehabilitation plan. Consequently, the injured employee entered the city of Toledo's Early Return to Work program sooner and returned to work sooner than did the city of Cleveland's injured employees.

This would support the contentions of the literature reviewed. A review of the literature also suggests that it was not enough to have an ERTW program in place, but that that program must be structured and formalized, and the process for implementation of the program must be focused and systematic. Open communication and commitment between the key stakeholders is essential to ensure success. As men-

tioned earlier, the City of Toledo's program had top management and labor support through their written formalized union contract, which required all employees to cooperate with the ERTW program guidelines, and department supervisors likewise cooperated. Early intervention, once an injury has occurred, is absolutely vital to injured workers' success in returning productively to the workplace. Fostering a mature, cooperative, and trusting relationship between workers and management is the key to a successful ERTW program (King et al., 1995).

Another advantage that Toledo's (supported) program demonstrated was how quickly their injured workers entered the program. Toledo's ERTW program had a mean of 24 days from the date of referral to the actual return to work date, as opposed to the city of Cleveland's ERTW (non-supported) program, which had a mean of 95 days. Early identification of employees who may benefit from an ERTW placement is critical in the return to work process.

Mulholland, Sniderman, and Yankowski (1994) reported that an important distinction among Early Return to Work programs is the length of time, which elapses between the time of the initial injury and involvement in an Early Return to Work program. Studies of early referral to rehabilitation have shown that the longer employees are off work on disability, the less likely they are to return to work. It has been widely acknowledged in the industrial rehabilitation community that the sooner you are able to get an injured employer involved in the rehabilitation/return to work process, the better the results will be. Additionally, numerous studies and research has shown that the longer an injured worker is away from the workplace, the less likely he or she is to return to work.

However the reader should be cautioned when considering this finding, as there may be other characteristics of the participants in the two city programs that were not examined in this study. Characteristics such as age, gender, participants' work ethic, geographical area, and unemployment rates may have an effect on time off work and outcome, as well.

Question 2: Did the type of Early Return to Work program make a difference in employment outcome?

A two-by-two frequency table was made and a chi-square analysis performed. There was not a significant relationship between type of program and outcome ($\chi^2 = 1.691$, $p = .1934$). Consequently, the null hypothesis was accepted. The literature supports this finding, as the critical issues were whether a program exists. Both the city of Cleveland and Toledo had ERTW programs as part of their disability management process. The literature is very strong regarding the need for an employer to have a formalized return to work program to assist in the quick and safe

return of their injured employees. Growick (1998) indicates that the most important aspects of an ERTW program was Time Off Work (TOW) and conciliation (outcome). He writes, "In workers' comp, time is your enemy; the longer an employee is off work, the more costly it is. The sooner you can intervene in a case, the better- and the best way is through an ERTW program" (Growick, 1998, p. 1).

Like Growick (1998), Taylor (1992) also argues for ERTW. As he suggests, one component of a comprehensive Disability Management program that has been shown to be effective in helping to reduce workers' compensation costs for the employer is the development of an Early Return to Work program. These programs help the injured worker to return to work under medical supervision, and perform modified jobs within their post-injury physical and medical capabilities, the rationale being that the sooner the worker returns to the workplace in any capacity, the more he or she is to return to regular employment, which clearly benefits both the employee and the employer.

Question 3: Did the type of occupation make a difference in the length of time off work (TOW)?

The two program groups were also combined in order to study the participants' type of occupation. An ANOVA was run to ascertain whether there was a relationship between occupation and length of time off work. There was a significant relationship found ($F = 5.5704$, $p = 0.0042$).

To further elucidate this relationship between occupation and time off work, *t*-tests between each group combination were run and a significant difference was found between the groups. No significant relationship was found for the city of Toledo ($F = 2.34$, $p = 0.1002$), while a significant relationship was found for the city of Cleveland ($F = 0.628$, $p = 0.5351$).

While there appeared to be a relationship between type of occupation and time off work when the two programs were combined, this finding may have been skewed in as much as there appeared to be no relationship between type of occupation and time off work for the city of Toledo and a very strong relationship for the city of Cleveland. It appears that the city of Cleveland programmatic numbers in regards to this question may have inflated this association.

The literature suggests that type of occupation is not in itself a contributing factor in how long it takes for an injured employee to return to work. Mulholland, Sniderman, and Yankowski (1994) reported that an important distinction among Early Return to Work programs is the length of time, which elapses between the time of the initial injury and involvement in an Early Return to Work program. Studies of early referral to rehabilitation have shown that the longer employees are off work on disability, the less likely they are to return to work at all. After six months, it was

found that only 5% of injured workers returned to work. Interestingly enough, few companies make participation in rehabilitation mandatory. In California where vocational rehabilitation is mandatory, employers realized an estimated \$208 million in savings after implementing an Early Return to Work program.

Question 4: Did the type of occupation make a difference in the outcome of employment?

A two-by-three frequency table was made and a chi-square analysis performed. There was not a significant relationship between the type of program and outcome (chi-square = 2.019, $p = 0.3643$). The findings failed to reject the null hypothesis.

The literature supports this finding as authors have indicated that early referral to an ERTW program is the primary issue as to whether an injured employee returns to work. Another factor that the literature has suggested would be the effects that external forces have on the return to work process after injury. King reports that early intervention, once an injury has occurred, is absolutely vital to injured workers' success in returning productively to the workplace. It is also essential to foster trust and mature, cooperative relationships between the key players involved in the system, especially employers, workers, and the public entities responsible for serving them (King et al., 1995, p. 30).

In addition to the structural components of an ERTW program, the literature suggests that external issues that encompass the process also need to be considered. One area is the providers of the therapeutic component associated with the ERTW program. According to Towers and Perrin (1993) and Scammell and Booth (1997), a network of healthcare providers who are knowledgeable about the unique needs of the organization in the workplace needs to be established.

Question 5. Did the type of injury make a difference in the length of time off work (TOW)?

To analyze the types of injury, data from participants from both the Toledo and Cleveland programs were combined. Then the means and variances of the TOW (time in days between date of the injury and the date of the return to work) were determined for each type of injury. An ANOVA was run to see whether there was a relationship between the six types of injury and the TOW for both cities. There was no significant relationship found ($F = 0.3999$, $p = .8788$). The findings failed to reject the null hypothesis.

An ANOVA was run to see whether there was a relationship between the six types of injury and the TOW for the city of Toledo. There was no significant relationship found ($F = 1.513$, $p = 0.1903$). The findings failed to reject the null hypothesis.

An ANOVA was run to see whether there was a relationship between the six types of injury and the TOW for the city of Cleveland. There was no significant relationship found ($F = 1.727$, $p = .1326$). The findings failed to reject the null hypothesis.

These results are discussed below, in combination with question 6.

Question 6: Did the type of injury make a difference in the outcome of employment?

A two-by-six frequency table was made and a chi-square analysis performed. There was not a significant relationship between type of injury and outcome (chi-squared = 1.691, $p = .1934$). The findings failed to reject the null hypothesis.

The literature reviewed supports the findings recorded for questions 5 and 6, suggesting that there is no relationship between the type of injury and how long it takes an injured worker to return or not return to work. Butler, Johnson, and Baldwin (1995) in their study entitled "Managing Work Disability: Why First Return to Work is not a Measure of Success" found that except for severe cases, the direct physical effects of injuries do not determine whether or not an injured worker returns to stable employment. They surmised that the nature of injuries influence return to work outcomes only partially, and offered a set of conditions that affect the return to work process. These conditions include workers' characteristics, workplace accommodations that offset the limiting effects of impairments, employers' incentives to accommodate injured employees, and the employees' work environment.

Implications of this Study

In summary, this study and a review of the literature suggest that the implementation of an Early Return to Work program as a component of a disability management process can have an effect on lost time from work resulting from injuries sustained on the job. A key factor as to how effective the return to work program is depends on the type of program.

It is suggested and supported by the findings from this study that the ERTW program must be structured, have labor and management support, that the external providers of services be knowledgeable regarding the return to work process. Furthermore, the return to work process should focus on functions and a key phrase may be to **"return the injured employee to the functional demands of his or her occupation."**

The findings of this study strongly suggest that early intervention or early referral to the ERTW program or rehabilitation is essential in how effective an ERTW program will be in controlling the amount of time an injured employee is away from work. The study con-

firms that one of the essential components of an effective ERTW program is having top management and labor support. The study shows that injured workers are not off work for extended periods of time, when they have management and labor support and a formalized written agreement.

The literature suggests that the successes that an ERTW program has in reducing the amount of time off work in the workers' compensation system may have far reaching effects in other venues. ERTW programs may serve to manage workplace absences in general, regardless of incidence of injury. The emergence of the concept of 24-hour care and integrated disability management has become a tool that is being considered by insurance companies and employers as away of controlling lost time from work in case where the injuries or disabilities sustained were away from the work environment. This is especially true with the passage of the Americans with Disabilities Act (ADA). The emergence of ADA has forced employers to consider accommodating individuals with disabilities by providing alternative placement opportunities and options in the employment environment. These employment options would include modified duty assignments or restructuring the workplace to accommodate the functional limitations associated with illness or injury regardless of incidence. Thus employers are going to need assistance from rehabilitation practitioners who can provide them with processes, programs, and strategies to handle ADA issues and lost time from work.

The findings of this study and the literature reviewed suggest that before one can be sure of the effects of an ERTW program on lost time, further quantitative studies need to be conducted relative to cost benefits analysis. Furthermore, qualitative studies as to the impact these programs have on employees participating in ERTW programs and the effectiveness of these programs on employer operations and production need to be conducted.

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Biography

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