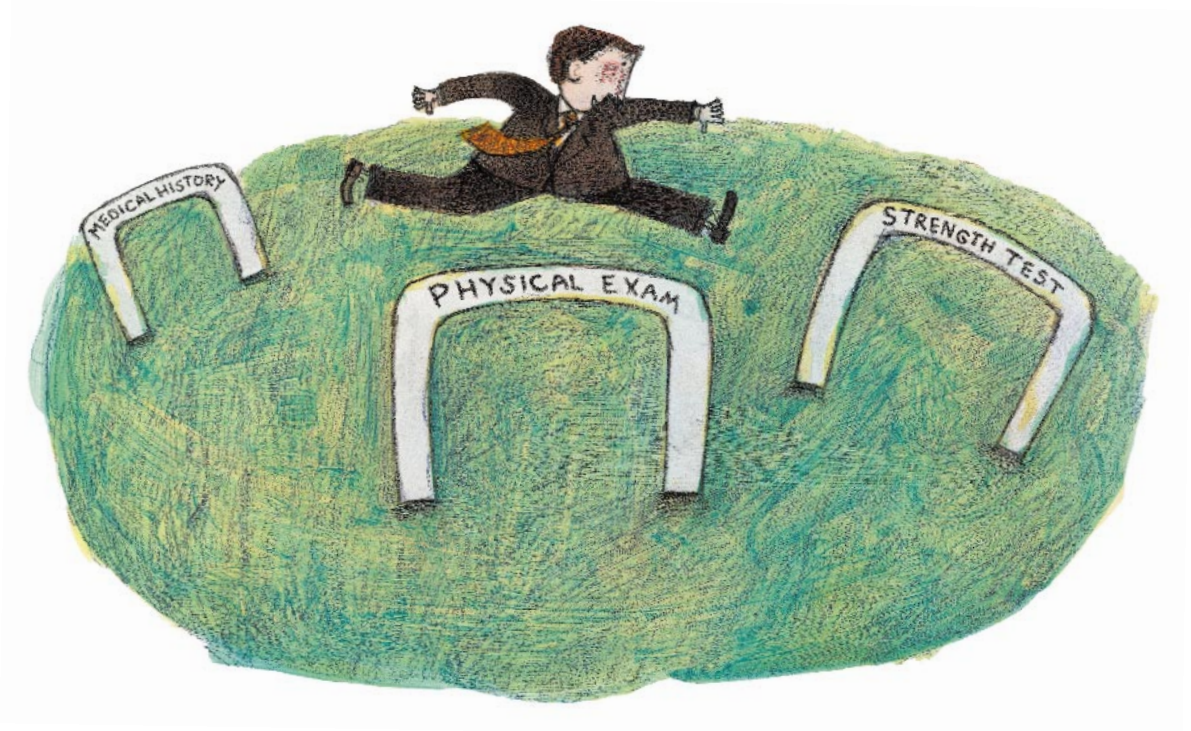
MEASURING EMPLOYEE ABILITIES



By Liz Scott

Screening potential employees to ensure they can physically perform the job they've been hired to do can have a significant impact on future disability costs.

The average workplace injury in Ontario costs employers over $59,000, according to figures from the Workplace Safety & Insurance Board (WSIB). The WSIB's 2000 annual report reveals that there were 379,097 injuries reported in 2000, up from 364,069 the year before. Of the 379,097 injuries in Ontario that were reported in 2000, 28% were lost-time claims, meaning the injured worker had to take time off work to recover. Canada-wide, there were 392,502 lost-time claims in 2000, up from 379,450 in 1999.

The financial costs—not to mention the emotional impact on ill and injured workers—of disability management are staggering. In addition, indirect costs associated with workplace accidents and illnesses are estimated to be roughly four times the direct costs. Together with direct

costs, disability management represented a $12 billion drain in Ontario alone in 1999.

Post-offer screening, in which job candidates are put through a series of physical tests to ensure they can physically do the job they have been hired to do, has the potential to substantially reduce employer disability costs.

A recent quantitative study of post-offer screens was performed based on confidential data collected over a four-year period. The results of this research offer valuable information to employers in their quest to control disability costs, and to occupational health and human resources people in their efforts to reduce accidents and prevent disabilities in the workplace.

The study was conducted at a 500-employee plant of a major industrial employer in Ontario. Repetitive injuries were a major concern and cost for the employer. The study was designed with a participating group (group one) and a control group (group two); each group had 110 members. The data was analyzed primarily using T-tests (a statistical test that compares the average of one group to another) and correlation studies. A financial analysis was also performed to determine the actual cost savings to the employer.

When used properly, post-offer screening is a cost-effective means of ensuring a potential hire has the physical capability to perform the job they're being hired to do. The absolute cornerstone of any post-offer screening program is to ensure clear and concise guidelines exist around the process (see "Legal concerns," page 49). Post-offer screening is not meant to eliminate traditional human resource screens but to supplement them and improve the positive outcome of new hires. A 1996 article in the *College Review* journal notes that "pre-employment testing will not supplant traditional selection processes such as interviewing and reference checks, but rather will enhance the selection process and reduce costs associated with turnover."

ACCORDING TO THE STUDY, 23 INJURIES AND APPROXIMATELY $2,073,000 IN DISABILITY COSTS COULD HAVE BEEN SAVED.

Post-offer screening includes all of the following:

- Health history.
- Physiotherapy screening.
- Objective testing.
- Workplace simulation.
- Occupational health physician review.

These components must be preceded by accurate job demands. In their 1991 paper in the *Journal of Emergency Medical Services*, authors C.Terribilini and K. Dernocoeur discuss pre-employment screening as "the use of various tools to determine whether job applicants are at risk of increased occupational injuries and illness." They include five main considerations when conducting pre-employment screens: safety, reliability, job-relatedness, practicality and predictiveness.

The screening process itself must be carefully developed to ensure it meets legal standards including, "identification of high risk jobs, a complete job analysis, test design and validation of the process." The screens should include "medical history, physical examinations and strength and flexibility testing."

It is essential to match the capabilities of the person with the job requirements. It is also essential to monitor

A comparison

Candidates in group one went through a post-offer screening process, while those in group two did not. The difference in injury costs between the two groups is significant.

	Injury	No injury	Injury costs
Group one	1	91	$6,500
Group two	23	87	$2,073,000

the results of all post-offer screening for any adverse impacts and workplace design issues that may be identified during the process.

STUDY DESIGN

The quantitative study of post-offer tested vs. non-post-offer tested candidates clearly reveals that post-offer screening did make a significant difference in post-hire injury behaviours. According to the study, 23 injuries and approximately $2,073,000 in disability costs could have been saved in the group of candidates that did not participate in post-offer screens (see "A comparison," above).

The study did not look at the indirect costs of disability because the actual costs revealed by the study were so significant. Indirect costs, however, are also a critical component of the total disability picture (see "Indirect costs," page 46).

The number of injuries in the non-post-offer screened group was significantly higher than those that had passed the post-offer screen prior to employment. The study also found that factors such as age, gender, ethnicity and pre-hire disability status had no impact on whether candidates passed or failed the post-offer screen.

The data compiled the following:

- Age.
- Gender.
- Ethnicity.
- Pre-hire disability status. Was the candidate disabled prior to taking the post-offer screen?
- Pass or fail outcome.
- Post-hire injury behaviour.
- Incurred Workers' Compensation costs.

The study examined the differences between post-offer

screened and non-post-offer screened candidates on post-hire disability outcomes and the resultant costs. The significance and justification of the study was established by an identified need to research the value of post-offer screens.

A computer program was used to run T-tests and correlation studies. These analyses were used to determine if age, gender, ethnicity and pre-hire disability status had any impact on whether candidates in group one passed or failed the post-offer screen.

Further analysis compared the post-hire injury rates of the two groups. A mean was calculated for the post-hire injury outcome of the candidates that passed and the post-hire injury outcome of the candidates that failed. The mean for each group was used in a T-test to determine whether or not the difference observed between the two means was statistically significant.

Indirect costs

There are several indirect costs associated with replacing workers who are off work because of injuries. Here are a few to consider.

Quantifying indirect costs of disabilities on organizations is a significant challenge. In his book, *Applied psychology in human resource management* (1982), Dr. Wayne Cascio looked at several models for costing the human behaviour in organizations. He suggests in addition to the actual benefit costs, a number of other elements should be considered in the formula, including replacement costs, training costs and absenteeism costs. According to his formula, total replacement costs can be calculated using seven factors:

- R1 represents communicating job availability, with the components being advertising and employment agency fees per search, plus time required for communicating job availability multiplied by the personnel department employee's pay rate all multiplied by the number of turnovers replaced during the period.
- R2 represents the costs of pre-employment administrative functions, including time required by personnel for administrative functions, multiplied by the average personnel department's pay rate multiplied by the number of staff being replaced.
- R3 represents the entrance interview, including time required for the interview multiplied by the interviewer's rate multiplied by the number of interviews.
- R4 represents staff meetings, including time required for the meeting multiplied by the personnel department's pay plus the other departments' pay multiplied by the number of meetings during the period.
- R5 represents the acquisition and dissemination of information, including time required for acquiring and disseminating information multiplied by the average personnel department's pay rate multiplied by the number of replacements.
- R6 represents in-house medical examinations, including time required for the exam multiplied by the examiner's rate of pay plus the costs of supplies multiplied by the number of exams.
- R7 represents contracted medical examinations, including rate per exam multiplied by the number of exams.

Total replacement costs, then, equal R1+R2+R3+R4+R5+R6+R7.

Training costs represent the investment every corporation makes when a new employee joins the firm. They can be calculated using three factors:

- T1 represents informal literature, including unit costs of the information package multiplied by the number of replacement employees.
- T2 represents the formal training program, including the length of the training program times the average rate of pay of the trainer plus the trainee's rate of pay, multiplied by the total number of new employees multiplied by the proportion of training costs allocated to new employees.
- T3 represents employee instruction, including the number of hours required for instruction multiplied by the new employee's pay rate multiplied by the number of instructions during the period.

Total training costs, then, equal T1+T2+T3.

Absenteeism costs can be summarized in an 11-step calculation (see "Calculating absenteeism costs," below). These formulas can assist in summarizing the indirect costs of employee absence. The indirect costs can then be combined with the direct costs for a complete picture of employer costs.

Calculating absenteeism costs

The chart below illustrates how to calculate the cost of absenteeism.

Item	Calculation
1. Total employee hours lost to absenteeism for the period	**$124,776**
2. Weighted average wage/salary per hour per absent employee	**$6.62**
3. Cost of employee benefits per hour per employee	**$2.18**
4. Total compensation lost per hour per absent employee a. if absent workers are paid (wage/salary plus benefits) b. if absent workers are not paid (benefits only)	**$8.80**
5. Total compensation lost to absent employees (total employee hours lost x 4.a or 4.b, whichever applies)	**$1,098,028.80**
6. Total supervisory hours lost on employee absenteeism	**$6,492.50**
7. Average hourly supervisory wage, including benefits	**$12.08**
8. Total supervisory salaries lost to managing problems of absenteeism (hours lost x average hourly supervisory wage – item 6 x item 7)	**$78,429.40**
9. All other costs incidental to absenteeism not included in above items	**$64,300.00**
10. Total estimated costs of absenteeism (Total items 5,8,9)	**$1,240,758.20**
11. Total estimated costs of absenteeism per employee (total estimated costs / total number of employees)	**$620.38**

Source: Applied psychology in human resource management *by Dr. W. Cascio (1982, Prentice Hall, NJ).*

Legal concerns

Some employers may be wary of implementing a post-offer screening program because of legal issues.

Human rights legislation in both Canada and the U.S. permits post-offer screening as long as it is in direct relationship to the current individual's capabilities and the physical demands of the job the individual is being hired to perform. It's important to note that before any screening is conducted, an offer of employment is already in place stating that the employment is contingent upon the potential employee having the physical capacity to fulfil the demands of the job. Even if the employee fails the screen, he or she can still be offered an alternate position within the company.

The individual benefits because he or she will not be subjected to a job he or she does not have the physical capability to perform. The employer, meanwhile, benefits because the new employee will not be injured performing a job outside of his or her physical capabilities.

The post-offer screen is done by an external clinic and all information collected is confidential and is not released to the employer.

POST-HIRE COSTS

An analysis was also done on the post-hire costs of disability in the post-offer screened group and the non-post-offer screened group using an average of actual costs from similar claims over the past five years.

The independent variables of the study were age, gender, ethnicity, pre-hire disability status and pass or fail of the post-offer screen. The first four independent variables were compared with the fifth variable using a T-test. Additionally, the fifth variable was compared to the dependent variables using T-test and correlation studies. There was a statistically significant difference between pass or fail outcome on post-hire disability behaviour. There was no significant difference between age, gender, ethnicity or pre-hire disability status on the pass/fail outcome of the post-offer screen in group one.

The dependent variable for this study was post-hire injury behaviour. Of the 220 candidates, 110 were in group one and 110 were in group two. In group one (the post-offer screened group), 92 (83%) passed and 18 (16%) failed the post-offer screen. Only those that passed the post-offer screen were placed in the jobs. Job matching was performed, however, so a candidate that may have failed the post-offer screen may have retested for an alternate job and passed. Group one had only one injury in the year post-hire. Group two was not post-offer screened, therefore 100% of the candidates were placed in the workplace. This group had 87 employees not injured (79%) and 23 injuries post-hire (21%).

The study showed a significant difference in post-hire disability behaviour between the two groups. The 23 injuries in the group that was not post-offer screened resulted in $2,073,000 in disability costs. These costs were calculated using five years of average-cost data for similar disabilities.

The results of this study offer quantitatively sound data supporting the implementation of post-offer screens as a means to reduce the human and financial costs of disabilities in the workplace. There was a statistically significant difference in screened versus non-screened candidates after they had been hired. The cost savings associated with post-offer screening makes the process worth looking at for employers who want help controlling their disability costs. **BC**

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