# On the Road Again...

# Predictive Modeling: a Pro-Active Approach to Managing Workers' Compensation Costs

### by David Leng, CPCU, CIC CWCA

The number of on-the-job injuries continues to decline; yet the total cost of workplace injuries continues to escalate. The paradox of fewer injuries and greater costs continues to baffle employers and professionals in the insurance industry.

Insurance professionals, employers, and business leaders are aware of the following conditions that drive up Workers' Compensation injury costs:

■ About 20 percent of employee injuries account for 80 percent of the claims dollars spent in the system.

■ Injuries that should have a short duration according to the medical condition often drag on for months or years and are concluded with large settlements.

■ Two employees with the exact same injury and the same exact biology may have very different cost outcomes to their injury.

■ Psychosocial factors significantly influence claims costs, but adjusters or employers do not change or enhance their process to accommodate these factors.

■ There are very few catastrophic injuries, so it's the "typical injury" that is driving the cost problems.

Medical researchers and professionals have studied these issues under what they call "Delayed Recovery." Delayed Recovery occurs when the duration and financial outcome of a disability are out of proportion with the severity of the injury or illness. For example, back sprains and strains, joint injuries, and cumulative trauma are the most troublesome and costly types of injuries. However, studies have shown that only three or four out of 20 such injuries will become chronic and exhibit Delayed Recovery.

Early intervention is the key to ensuring an injured employee makes a rapid return to full productivity. Yet, it is too costly and nonsensical to deploy the same level of resources for every back or joint injury when only three or four out of 20 will present a problem.

So how can we know, with reasonable certainty, which three or four injured employees out of the 20 will experience Delayed Recovery? For many years, medical researchers have been utilizing Predictive Modeling to determine what precipitates Delayed

> "Predictive Modeling is relatively new to the field of work-related injury management, but has a long-standing and proven record in other industries."
>
> *— David Leng*

Recovery. The answers are available, but up to now they have been buried in medical literature.

Predictive Modeling is relatively new to the field of work-related injury management, but it has a long-standing and proven record in other industries. For instance, readers of this article are probably aware of their credit scores. The banking and credit industries developed credit scoring over 50 years ago as a way to predict which borrowers are more likely to default on their loans – that's Predictive Modeling.

Through the use of Predictive Modeling and the development of credit scores, the credit industry has dramatically reduced the number of loan and credit card defaults. Credit scores are now used by a whole host of industries including telecommunications, insurance, and executive staffing, just to name a few. If a company has a credit risk, it is likely to utilize a risk reduction tool such as a credit score that was developed though Predictive Modeling. The same method used to accurately predict loan and credit defaults has now been applied to predict which injured employees are likely to experience Delayed Recovery.

Injuries do not occur in a vacuum. There are many factors beyond just the physical medical issues that influence an injured employee's recovery and return to full productivity. These include, but are not limited to:

■ Job dissatisfaction.

■ History of prior injuries.

■ Education level.

■ Length of employment.

■ Secondary medical issues (diabetes, cardio-pulmonary, etc.).

■ Lack of available modified or transition duty jobs.

A key component to predicting Delayed Recovery is the ability to identify the non-medical issues affecting the injured employee. Doctors have been trained to apply medical treatment protocols to injured workers; however, often it is not the medical condition that is preventing the injured employee from returning to full productivity. Providing additional medical treatment *will not bring a positive outcome if the medical condition is not the underlying cause of the Delayed Recovery.*

Put simply, injured employees are more likely to experience

Delayed Recovery because of issues not related to the injuries or their physical conditions. Through the use of Predictive Modeling, these employees can be identified quickly.

The Institute of Work Comp Professionals is the first organization to offer a Web-enabled product directly to employers that predicts which employee injuries are most likely to result in Delayed Recovery. Like so many advances in the past, this application leverages technology to give us a practical use of scientific studies.

The purpose of this tool is to detect early in the claims process which injured employees are most likely to be more costly than the norm. By identifying exceptions early, you can take immediate action to improve outcomes and reduce unnecessary costs. This Predictive Modeling program has been tested by the California State Workers' Compensation Fund with positive results.

Here is how it works. At the time of injury, the employer or manager answers questions about the employee on a secure Web site. Then, based on a weighted algorithm developed through exhaustive testing, the program provides a score of a "Low, Medium, or High Predictive Indicator of Delayed Recovery." An intervention plan is available for each indication level.

Let's assume the Predictive Modeling process produces a "High Predictive Indicator for Delayed Recovery" for a particular injured employee. A detailed intervention plan prepared prior to the injury that is specific to this level of indication is executed. Greater resources are then mobilized and expended than would have been had there been no advance warning.

In addition, front-line supervisors can be brought into the loop quickly. They can be made aware that they need to be more actively involved with their employees' recoveries. Front-line supervisors become critical to the intervention process by supporting workplace accommodations and maintaining positive communication. Supervisors should also be made aware of the anticipated duration of employee disabilities so they can monitor their employees' progress.

Injury management practices seem to bump along year after year without much change or evolution; Predictive Modeling is changing the landscape. Some will adopt this newfound leverage of knowledge and technology, and some won't. At a time when injury costs continue to escalate, Predictive Modeling of Delayed Recovery and the interventions that follow may be the difference that separates those whose costs continue to escalate and those whose costs decline. ▼

**Editor's Note:** David Leng is a co-founder of Keystone CompControl, the country's largest network of Workers' Compensation specialists, and one of only 20 Level-5 members of the Institute of WorkComp Professionals. Leng, who has 12 years experience specializing in Workers' Compensation, is an alumnus of Penn State where he received his Bachelor of Science in Insurance. He holds many professional designations, including Certified Insurance Counselor and Charter Property Casualty Underwriter, and has been designated a Certified WorkComp Advisor by the Institute of WorkComp Professionals. In the past two years alone, David has saved his clients well over $2,000,000. He can be reached at 724.863.4225x372 or via e-mail, dleng@keystonecompcontrol.com.