

Soft Tissue Injuries: The Decision to Provide Targeted Risk Improvement Services

Traditional Risk Engineering efforts in Europe and most of the industrialized world have focused on Property and Liability exposures. In North America, particularly in the United States, the focus has been not only on Property and Liability exposures, but also on exposures due to employee health and safety. Given this traditional focus, opportunity remains for significant impact upon the economics of individuals, corporations and governments. This paper reviews the scope of the opportunity and reviews the potential impact that is achievable through targeted Soft Tissue Injury Prevention efforts.

Scope of the Opportunity - Global

According to the International Labor Organization (ILO), work-related injuries and illnesses (270 million cases) kill two million employees on an annual, global basis, and cost the global economy about USD \$1.25 trillion annually (ILO 2003) .

European employers annually spend about EUR €1 billion on worker absences (estimated by the EU at about 350 million days *annually*), sick pay and lost production (Harper 2003). On average in the EU, this includes about 4 million work-related accidents (and 150 million days lost due to work-related accidents (ILO 2003), and in 2004, about 4,400 fatalities. (EU 2007) The EU actually reports that work is responsible for about one third of absences/sick leave. For the victims of work-related illnesses and injuries, the economic impact is about EUR €1.2 billion, not counting un-reimbursed healthcare costs or rehabilitation. (EU 2007).

Small and medium-sized businesses are responsible for over 80-percent of work-related injuries and illnesses and about 90-percent of all fatal accidents in the European Union. (EU 2007) The total cost of work-related illnesses and injuries in the EU is estimated to cost about 55 billion euros annually, or up to nearly four percent of EU gross national product (GNP). (NIOSH 2006).

In the EU, about five percent of injured workers are never expected to be able to return to their original job (EU 2007). In the UK, about 36 percent of 3-day injuries in the service industry involve overexertion (hence soft tissue injuries/illnesses), about 24 percent involve slip or trips, and about 14 percent involve struck-by a moving object (Local Authorities Report 1996).

According to the ILO, fatality rates in the developing world are about four times those of industrialized countries (ILO 2003). In China in 2005, the State Administration of Work Safety disclosed 15,000 annual work-related fatalities due to work-related accidents.

(Pareles & Portoso 2005). A study of work injuries and treatment in the Pearl River Delta found about 30,000 work injuries annually (Pareles & Portoso 2005). The study found that one third of workers could not account for the cause of their injuries, human factors such as carelessness, fatigue or overwork accounted for a second third of cases, and the most prevalent injuries reported were broken or amputated fingers on the primary (dominant) hand. Overall, 95-percent of all injuries were to employees' upper limbs. On average, hospitalized workers stayed in hospital about two to four weeks. The average medical bill was about USD \$794, which was the equivalent to about two-thirds of a worker's entire annual salary.

Only one half of Chinese workers surveyed reported being covered by work-injury insurance, in fact, the survey found that some employers would insure only a handful of workers, then require injured workers to assume the names of the insured employees. Finally, even though China has a wide variety of health and safety rules and regulations, they are not applied at the local level, particularly to unlicensed factories that often hire unregistered workers (Pareles & Portoso 2005).

Scope of Opportunity – North America

In the United States, over USD \$40 billion is spent annually on the direct costs of work-related illnesses and injuries. This includes over 13 million injuries and illnesses and about 5,700 annual fatalities (BLS 2007). In select states, the state government runs the workers compensation system, but studies have shown that higher average costs for corporations result when a state insurance fund is present (Krueger & Burton 1990).

A study of workers compensation losses at Zurich North America from 2003 to 2007 evaluated about 350,000 closed cases of work-related illnesses and injuries, with an average case cost (for lost time cases) of nearly USD \$17,000.

A detailed look at one set of construction industry clients revealed an average closed case cost of about USD \$26,900. Moreover, soft tissue injuries represented a significant portion of this group's total claim cost. Soft tissue injury-related claims are those that arise from such activities as:

- Over exertion from lifting, bending, pushing, pulling or reaching
- Cuts or scrapes from object being handled or lifted
- Struck or injured by falling or flying object

Targeted Soft Tissue Injury Prevention

Given the scope of the opportunity, research was conducted to determine whether a targeted soft tissue injury prevention program could significantly impact the frequency and/or severity of lost time workers compensation claims.

The analysis method compared seasonally adjusted changes in soft tissue injury claims for among two test groups—those that received a targeted injury prevention program and those that did not receive the targeted injury prevention program.

The targeted services encompassed a seven-hour seminar program. During this program, attendees received “train-the-trainer” training for their employees in “at risk” construction job roles. In addition, the program provided a comprehensive injury awareness module for all employees.

Our findings revealed that those customers who successfully completed this training effort, experienced an 18 percent reduction in soft tissue injury-related claim frequency, when compared to those firms that did not receive the targeted effort.

Given that this targeted group experienced an average of 49 claims per month in the 12 months prior to the claim, this represents a reduction of nine claims per month. Assuming an average cost of \$38,400 per claim, this represents a monthly savings of \$338,400. Annualized, that amount represents a savings of \$4.05 million.

Since this test group represented just six percent of the insured business unit population an enterprise effort has the potential for a sixteen-fold impact.

Conclusion

Based upon these data, and the losses identified on a global basis, the case is clear for increased targeted services to help reduce work-related injuries and illnesses. Assuming the Zurich North America data is transferable, one of the greatest causes of loss is due to overexertion injuries and illnesses. These cases during the 2003 to 2007 period accounted for over 143,000 cases (41 percent) and over USD \$2.4 billion (41.5 percent of total costs).

While training programs by themselves can help to reduce incidences of lower back pain by about 20-percent, a comprehensive program that includes engineering controls and training can reduce the incidence of lower back pain by about 60-percent, and a comprehensive ergonomics program can reduce the incidence of LBP by about 74-percent [World Health Organization (WHO), 2002]. The WHO also learned that the full

programs are cost-effective for their reduction in illnesses and injuries, without consideration for and productivity or quality improvements (however these improvements can often provide economic justification for capital projects).

In the EU alone, about one quarter of workers report back pain and about 23 percent report soft tissue pain (Europa 2007). The World Health Organization (WHO) in its 2002 World Health Report investigated the effectiveness of various interventions to help lessen back pain among workers. They found that a comprehensive effort involving employee training, engineering controls, and a formal ergonomics program effort could reduce back pain by as much as 74 percent, without regard to any other productivity or other non-program-related gains (NIOSH 2006). This follows a 2002 ILO study that showed a high correlation between strong safety performance and competitiveness.

With the perception of aging workforce demographics, the effect of worker health and safety should take great precedence. About forty percent of retirements in high income countries are due to disability (ILO 2003). This places a greater burden on corporations that lose key skills and experience, and a greater burden on the societies that may support these disabled retirees.

Thus it is incumbent upon organizations that seek both a healthy workforce and global competitiveness to sponsor comprehensive worker health and safety programs via targeted services [and an opportunity for the consulting divisions of commercial insurance companies to assist those efforts].

Footnotes:

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