MAKING THE BUSINESS CASE FOR SAFETY: Case Study Demonstrates Financial Benefits of Participatory Ergonomics Programs

Getting funding for safety initiatives, especially those that aren't specifically required by the OHS laws, can be an uphill battle. Ergonomics related programs can be a particularly hard sell. You're more likely to get senior management's support'financial and otherwise'if you can show that an initiative will improve not only worker health and safety but also the company's bottom line. One effective way to make such an argument is with a case study of a company that took the steps you're proposing and reaped various rewards from doing so. Here's a recent case study from the Institute for Work & Health (IWH) that shows how an Ontario textile plant saved almost **$300,000** by implementing a participatory ergonomics program.

What Is Participatory Ergonomics'

The IWH explains that participatory ergonomics programs involve workers, supervisors and other workplace parties jointly identifying and addressing work-related risks that can lead to musculoskeletal injuries (MSIs). Studies have shown that participatory ergonomics programs can reduce MSIs,

workers' comp claims and lost days from work. MSIs such as carpal tunnel syndrome, tendonitis and low-back pain account for approximately 40% of workers' comp claims.

A participatory ergonomics program encourages workers to help identify the hazards or risk factors in their workplace that can cause or aggravate MSIs, such as working in awkward positions, doing repetitive work and having to apply force. Because workers are the ones actually using the equipment and performing the tasks, they're in the perfect position to identify what aspects don't work well for them. Such programs can be implemented as a part of a company's overall OHS program or as a stand-alone program. And although there are many studies on participatory ergonomics best practices, there are few studies that investigate the costs and benefits of these programs.

The Textile Plant Case Study

The IWH study, which appeared in the May 2013 issue of *Applied Ergonomics*, looked at an Ontario textile plant that implemented a participatory ergonomics program in 2001. To do so, it set up a worksite ergonomics change team, which included management and union representatives from the plant, as well as two outside expert ergonomists. Team members were trained to use participatory ergonomics principles to identify jobs for improvement, assess the ergonomic risk factors of the identified jobs and come up with solutions.

[box]**Other Ergonomics Related Resources**

For more information, tools and other resources on ergonomics programs, go to the OHS Insider's Ergonomics Compliance Centre, including:

- How to justify investing in ergonomics
- How to identify and assess ergonomics-related hazards
- 7 strategies for making your ergonomics program a success
- Ergonomics risk factor

checklist
- Model Worker MSI Symptoms Survey.

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The team ultimately identified and implemented ergonomics changes for 97 workers in 27 different types of jobs. (The plant employed up to 295 workers.) These changes included adjustments to equipment, workstations and processes. Almost all were low-cost and low-tech changes made by the plant's mechanics and maintenance staff, such as adjusting workstation heights.

The IWH researchers calculated the financial outcomes of the program over the four-year period from January 2000 to February 2004. This period included three distinct phases:

- Before the program was implemented (72 weeks);
- During implementation (100 weeks); and
- After implementation (44 weeks).

The participatory ergonomics program cost $65,787, including the time and material costs for 700 hours of ergonomics team training, over 700 hours of ergonomics expertise and about 20 hours of production down-time.

As for savings, the researchers calculated the money saved by comparing before-and-after numbers for:

- Health measures, such as workers' comp claims, first aid only incidents, modified duty cases and durations, casual absence days and long-term sickness claims and durations; and
- Productivity measures, such as percentage of shirts manufactured correctly the first time and percentage of target output produced.
- The researchers used complex statistical methods to ensure, as much as possible, that any changes identified were due to the program and not other changes at the plant taking place at the same time. Their calculations suggested that although implementation of the

participatory ergonomics program didn’t impact workers’ comp claims, it did:

- Reduce the number of first aid only cases by 65%, saving $7,675;
- Cut the number of modified duty cases in half, saving $58,230;
- Reduce the number of casual absenteeism days by 23%, saving $10,045; and
- Decrease the number of long-term sickness absences by 75% and reduce their length by 93%, saving $266,645.

As for productivity, both the percentage of shirts manufactured right the first time and the percentage of target output produced improved, resulting in about 135 more shirts being produced right the first time each week’a savings of just over $18,000.

Subtracting the participatory ergonomics program costs ($65,787) from the total savings, the company was ahead **$294,825** over a four-year period’a benefit-to-cost ratio of 5.5. That is, for every $1 the plant spent on the program, it saved $5.50.

BOTTOM LINE

The textile plant case study is a compelling real-world illustration of how small, inexpensive changes can have big impacts on health and safety and the company’s bottom line. As the study team leader Dr. Emile Tompa said, ‘[Participatory ergonomics] programs can be effective and cost beneficial from a company perspective,’ adding that interventions don’t have to be expensive to achieve health and productivity benefits. ‘Small-scale things’ i.e. minor workstation modifications’can yield big returns,’ he said. ‘For example, it came to light in the shirt manufacturer that some of the textile racks were too high for workers to reach comfortably. So the racks were lowered and needless strain was avoided. Many simple changes like this seemed to add up to make a big difference.’

***Insider* Source**

‘Manufacturer Learns Participatory Ergonomics Worth the Investment,’ *At Work*, Issue 72, Spring 2013, Institute for Work & Health, Toronto