Traditional safety incentive programs in the construction industry emphasize low injury rates, thereby rewarding underreporting of injuries rather than achieving any actual reduction in injuries (Lipscomb, Nolan, Patterson, et al., 2013). In 2012, OSHA published a guidance memo indicating that lagging-indicator-based incentive programs could discourage injury reporting and are a form of employee discrimination. Many companies ended programs that rewarded injury-free workdays and began to search for alternative solutions.

Between 2010 and 2014, researchers from Northeastern and Harvard universities developed and tested a safety communication and recognition program called “Building Safety for Everyone.” This program took a new approach. Safety managers who were already collecting data on hazard exposures through regular safety audits and inspections were directed to give regular feedback to the crews during scheduled meetings. Performance incentives were offered, but the rewards were based on safety audit scores. Workers were rewarded when safety managers observed good safety practices, rather than based on lagging indicators such as injury rates.

The program’s goal was to improve communication between workers and managers, as well as between different trade groups. It aimed to increase safety awareness and teamwork through collaborative competition and positive reinforcement of safe working conditions (Sparer, Herrick & Dennerlein, 2015). To test the program’s efficacy, the research team studied eight commercial construction work sites in the Boston, MA, area. Researchers implemented the program at four sites, while the other four did not have the program. During the 5-month study period, the researchers evaluated the program through qualitative (focus groups and key informant interviews) and quantitative (worker surveys) methods (Sparer, Catalano, Herrick, et al., 2016).

The results revealed statistically significant improvements in safety climate on sites that had the program. Safety climate measures workers’ perception of what is rewarded and supported at the work site with regard to safety and competing messages, such as productivity (Zohar, 1980). Sites with the program also experienced improved safety communication, teamwork and safety awareness (Sparer, et al., 2016).

While these positive findings were promising, questions about program implementation and sustainability remained.

**Building Safety for Everyone at Turner**

In fall 2014, Molly Wilkinson, a safety manager with Turner Construction, approached the research team about using Building Safety for Everyone at the new MIT.nano construction site in Cambridge, MA. It was an exciting opportunity that raised several questions: How would the program look when implemented by a safety manager rather than a researcher? Were all aspects of the original program feasible in a real-world implementation? Was the program sustainable?

Turner was in contract negotiations with MIT and would soon be hiring contractors. As part of the overall OSH budget, Wilkinson, who was to be the safety manager at the site, requested funds for the program believing it would improve site safety.

The company was focused on injury reduction through preplanning and had a strong emphasis on safety culture, so managers were eager to try an innovative program. The company agreed that the program aligned with its core values of teamwork, integrity and commitment. Furthermore, the academic environment of the MIT.nano building seemed especially appropriate to pilot a university-developed OSH program.

Wilkinson received a small budget. She would be responsible for administering the program and any extra work that this entailed outside of her normal duties as safety manager.

Using resources developed by the researchers, Wilkinson tailored a program that incorporated most of the existing components:

- Conduct comprehensive site safety inspections on a regular basis that include both safe and unsafe observations.
- Post a list of the safety scores (percentage of times she observed safe practices, behaviors and conditions) each cycle for each subcontractor, as well as an overall site safety score based on a weighted average.
- Provide detailed individual feedback, including both safe and unsafe observations, to foremen and encourage them to share this information with workers.
- Provide lunch and T-shirts (at the company’s expense) to all employees if the overall site score exceeded the target at the end of each period.

Wilkinson also made several site-specific changes. For example, personnel completed inspections weekly as originally designed, but the reward cycle was every 6 weeks, instead of 4. As a result, each subcontractor on site had at least four inspections during the 6-week cycle instead of the anticipated weekly inspection.

Other changes included sending weekly reports via e-mail rather than distributing hard copies. Also, as in the original program, for the periods during which the entire site score exceeded the threshold, a raffle (for items such as a gas gift card or safety gear) was held at the recognition lunch (Sparer & Dennerlein, 2013). However, in the Turner program, only workers from the top-scoring company were eligible to participate in the raffle.

The program was implemented in June 2015, when construction activities began with approximately 20 workers on site. This assessment was completed in June 2016. Over the course of that year, the workforce steadily increased, surpassing 100 workers at the time of the assessment. Between June 2016 and the date of this publication, the site has experienced minor changes including a new safety manager and a workforce of nearly 250.

The program is ongoing and is expected to last for the project’s duration.

**Impact of Building Safety for Everyone**

The program affected the work site in two primary ways. Positive reinforcement improved site morale. Instead of just reporting violations, Wilkinson and her team recognized good safety performance. This created a culture in which workers felt valued and appreciated. The public display of safety scores for all companies enabled workers to see how they compared to others.

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Best Practices

Safety Communication & Recognition

From Research to Practice in Construction

By Emily Sparer and Jack Dennerlein
According to Wilkinson, each week teams with lower scores asked questions about safety and how to improve. She also frequently saw workers from one subcontractor helping workers from another improve their safety performance. Thus, the program led to new safety-focused dialogue and improved safety awareness.

Additionally, Wilkinson says the program helped her conduct more objective safety inspections. Instead of looking only at the surface, she dug deeper and assessed the entire work process. Knowing that every observation, both positive and negative, would be reported and assessed the entire work process. She also conducted regular audits, which Wilkinson says helped maintain interest in the program. Some months, teams achieved the safety goal, some months they did not, which Wilkinson says helped maintain interest in the program.

The program’s goal was to improve communication between workers and managers, as well as between different trade groups. It aimed to increase safety awareness and teamwork through collaborative competition and positive reinforcement.

A Practical & Cost-Effective Program

In one sense, Building Safety for Everyone is a challenge for safety managers. It is easy to manage by lagging indicators, rewarding workers for injury-free days and scolding subcontractors with excessive recordable injuries. It requires much more effort to get in front of injuries by auditing job sites regularly and communicating the findings so that work teams can improve. Many leading construction firms already implement many of the program’s elements. Their safety staff conduct regular audits, they present regular toolbox talks and they administer incentive programs. The program does not require massive new spending, just a significant commitment to safety from senior management. The program provides a new framework for construction firms to improve site safety.

References


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For More Information

The researchers are developing a website with additional information about and resources related to the program. Visit www.northeastern.edu/buildingsafetyforeveryone later this spring.

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