Applying Heinrich’s Law to project safety

It goes without saying that no contractor sets out to create an unsafe jobsite. Given the randomness of accidents, you might think that predicting when something will go wrong is next to impossible. Not necessarily.

There are a variety of predictability models that can be applied to construction project safety, some more complicated than others. Among the oldest and easiest to understand is Heinrich’s Law.

What’s the theory?

H. W. Heinrich was Assistant Superintendent of the Engineering and Inspection Division of Travelers Insurance Company during the 1920s and 1930s. In 1931, he published *Industrial Accident Prevention: A Scientific Approach*. The book brought us Heinrich’s Law, which states that, for every 300 injury-free accidents, there are 29 minor-injury accidents and one major-injury accident.

To be clear, this 300:29:1 ratio is far from being set in stone. It’s based on research from decades ago, for which no reviewable papers exist. Several books have been written challenging Heinrich’s Law, and workplace (and construction jobsite) safety has grown by leaps and bounds since 1931.

Yet the enduring lesson of Heinrich’s Law persists. That is, if your construction company experiences a rash of “minor” accidents, don’t assume the weather has cleared. Those incidents could be the gathering clouds of a much greater storm.

How can we apply it?

Sometimes contractors grow overconfident after enduring a series of relatively unremarkable safety-related occurrences. One might say: “Yeah, we had a couple of scaffolds fall apart, but no one was hurt. We’re good.” Or: “There was a fender-bender, and a few of the guys were a little banged up. But no one had to be hospitalized.”

Workers escaping serious harm is a good thing. But, as Heinrich’s Law indicates, as the number of these incidents builds, you may not be managing jobsite safety so much as suffering a slow erosion of it.

So, what can you do? For starters, document every safety-related incident — with no exceptions. And don’t just document them — track them. Look for patterns and any sudden upswings in the number and severity of accidents. Over several years, you might be able to develop your own approximation of Heinrich’s Law. The railroad system in the United Kingdom, for instance, has reportedly used a 12:1.5:1 ratio.

Second, get every employee involved. Data is important, but it’s human beings who will make the difference. Establish a formal safety program that includes:

*Ongoing training.* As newer models of equipment and different types of materials are phased into projects, safety risks shift as well. Also, if the very nature or geography of your jobs has changed, that will affect matters. Workers need to be updated on evolving threats to their well-being, as well as gentle reminders to not get complacent.
Prejob safety meetings. Establish a clear structure for these meetings so everyone knows what to expect. Address your general safety policies, as well as the specific risks of the jobsite in question. Be sure to allow attendees to ask questions — you never know when someone might know something about a prospective project that you haven’t considered.

Regular job updates. As you know, the way a project begins isn’t usually how it ends. Many jobs start at a slow, measured pace and then pick up speed as you address setbacks and try to stay on schedule. This is precisely when an accident can occur, so you need to stay fully informed on progress.

Clear procedures for reporting and responding to accidents. Should your preventive efforts fail, all may not be lost. When employees know how to react to an accident, you’ll be in a better position to understand how it happened and address the situation as quickly as possible.

Are we just getting lucky?

As mentioned, Heinrich’s Law is just one way to approach whether your jobsites are truly safe or you’re just getting lucky. But it’s a subject worth exploring, as the cost of preventing accidents is likely far less than the costs of dealing with the fallout of a mishap.

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