

INDUSTRY:
Oil & Gas, Manufacturing

SOLUTION:
SafetyDNA

Predicting Recordable Injuries with SafetyDNA

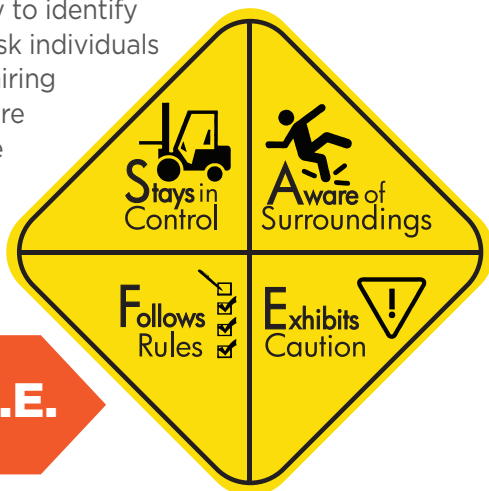
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THE SITUATION

Not all work-related injuries are the same. A small cut that requires no more than antiseptic and a bandage and a serious cut that requires 50 stitches, tendon damage, and five days of rest plus another month of restricted work are both injuries. The former, however is not considered to be an OSHA recordable incident whereas the second one would.

According to the most recent data from the U.S. Bureau of Labor Statistics, slightly more than one-half of the 3.7 million private industry injury and illness cases reported nationally in 2010 were of a more serious nature that involved days away from work, job transfer, or restriction—commonly referred to as DART casesⁱ. In other words, over 50% of all injuries were severe enough to lead to loss of work, restricted duty upon return, and/or transferring out of the original job.

While there are many factors that contribute to safety incidents, it’s clear that some individuals are more likely to engage in high risk, unsafe behaviors than others. For instance, 20% of drivers account for almost 80% of all driving accidentsⁱⁱ. That 80/20 pattern is similar to what is found in other industries for negative behaviors, including safety. As an employer, the key is to have an accurate way to identify those high risk individuals early in the hiring process before they become employees.



The S.A.F.E. Model

THE SOLUTION

The SafetyDNA assessment was developed specifically to assess an individual’s likelihood of unsafe behavior and elevated risks of safety incidents. The assessment is based on a four factor model referred to as the SafetyDNA S.A.F.E. model.

The assessment, along with its accompanying Insight Workshop, is primarily used as a development tool to help current employees gain insight into their safety risk factors, thus increasing awareness and changing behavior. However, it can also be used as an effective up-front filter in the hiring process to screen out high risk candidates before they enter the organization. This paper focuses on the accuracy of the SafetyDNA assessment at identifying individuals in that high risk category and the impact on actual safety outcomes.

According to the U.S. Bureau of Labor Statistics, more than one-half of the 3.7 million private industry injury and illness cases reported nationally were of a more serious nature that involved days away from work, job transfer, or restriction.ⁱ

As part of a larger study, we administered the SafetyDNA assessment to a group of 796 hourly employees from three different organizations representing oil and gas, paper products manufacturing, and construction materials manufacturing. Information was obtained regarding the number of safety incidents as well as the severity of those incidents over a 36-month period.

OUTCOMES

As a pre-employment screening tool, the assessment provides a final category rating based on a composite of the three safety factors: **At Risk**, **Monitor for Compliance**, and **Safe**.

Out of the 796 individuals we tested, there were 179 safety incidents; 60 of those resulted in injury and 37 of those injuries were serious enough to be considered OSHA recordables. Figure 1 below shows the percentage for individuals in each SafetyDNA risk category that were involved in an incident that resulted in an injury. The orange bar in Figure 1 shows the percentage for all injuries (both minor and serious) and the blue bar represents the percentage involved in OSHA recordable (serious) injuries. As compared to the those categorized as Safe, **individuals in the At Risk group were injured 4 times as often (4% compared to 16%), and injured seriously (OSHA recordable) 11 times as often.** Additionally, in our sample, almost half (43%) of the OSHA recordable injuries involved individuals in the At Risk group.

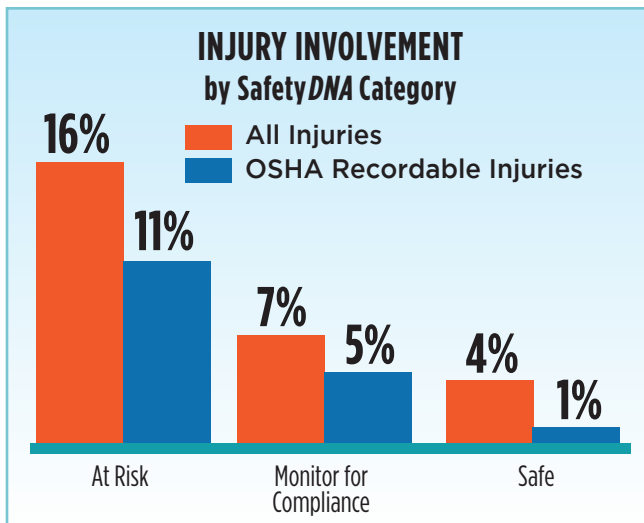


Figure 1

¹USDL-11-1502, October 20, 2011

[#]Knipling, R.R., Boyle, L.N., Hickman, J.S., York, J.S., Daecher, C. Olsen, E.C.B., Prailey, T.D. (2004). CTBSSP Synthesis Report 4: Individual Differences and the "High-Risk" Commercial Driver, Commercial Truck and Bus Synthesis Program. Transportation Research Board, National Research Council, Washington, D.C.

INCIDENTS RESULTING IN SERIOUS INJURY by SafetyDNA Category

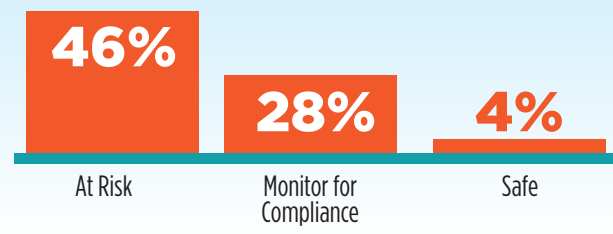


Figure 2

Because safety incidents do not always result in someone being hurt (e.g., near miss) or hurt seriously enough to be OSHA recordable, we looked more closely at serious injuries and incidents within each SafetyDNA category. When someone in the At Risk category was involved in a safety incident, 46% of the time, it resulted in a serious injury. This is in comparison to 28% for Monitor for Compliance and 4% for the Safe category.

These are powerful, statistically significant findings. Individuals in the study worked alongside each other in a wide range of positions, performing similar work, with the same supervisors. Yet, those identified in the At Risk category by the SafetyDNA assessment were 11 times more likely to be involved in incidents resulting in OSHA recordable injuries. Identifying At Risk individuals early on in the selection process could have eliminated almost half of all work-related injuries in these organizations.

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