



The Best *Vs.* The Worst

by Mackenzie Wilson

The World's Best Safety Experts tackle the worst and most persistent safety problems.

The Search for Reliable Leading Indicators Are There Really Any?

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For over 30 years, safety professionals have been searching for reliable leading indicators, and they have been told that simply looking at lagging indicators is equal to driving forward only looking in the rear-view mirror; you can't possibly see what's coming around the next corner. But is it possible that in 30 years no one has found any? Or is it possible that there aren't any reliable leading indicators?

A very unexpected result surfaced during the discussions at the SafeConnection expert panel we held with the same topic. As it turns out, nobody had an example of a company that made a significant change or pivot based on a leading indicator. We all know of many pivots that were the result of a past disaster (Exxon, NASA etc.), and all the panelists had examples of leading indicators that they "like", but proactive changes made because of a leading indicator were very hard to come by.

Some indicators were very common to all experts, such as:

- Near-miss reports;
- Hazard IDs;
- Observations;
- Leadership communications;
- Walk-arounds, audits and inspections;
- Employee suggestions;
- Risk assessments;
- Pre-shift briefings;
- And, for the ones that have taken SafeStart, Anticipating Error and Rate Your State conversations.

And during the conversations, we noticed there was a fair amount of overlap as well as diversity in the answers about what is actually done to prevent accidents. However, we found out three commonalities that must be considered.

Communication

Anthony Panepinto, PhD (Senior Director Health, Safety, and Environmental Affairs – Procter & Gamble) cited pre-shift briefings, condition audits, or near-miss reports. "All of these play a part in giving a total picture and keeping people focused on risk", he said, "but I don't think there is a single tool we have found".

David Bianco (Global SafeStart Program Manager, Epiroc) explains that they think direct observation is 'where the rubber meets the road', and that the conversation between the people involved in this is the most important element. A view shared by SafeStart Author and SafeConnection Moderator, Larry Wilson, "being able to get the perspective and going out and talking with the employees would certainly be the most reliable leading indicator, but you need to have strong and reliable communication lines".

One other way that JLL India found to make all employees the real protagonist in accident prevention, was creating its own application called, Don't Walk By. "If you see any unsafe act or condition you take a picture or video and it gets escalated immediately", said Dr. Praveena Dorathi (Head of HSSE). She further explained that the company uses an internal reviewing system that looks at how many entries are coming in. If there is a significant percentage deviation or recurrence, then they go and review or modify certain steps in their processes.

The accident prevention formula, of course, is not the same for everyone. Dr. Waddah Ghanem (Senior Director, Fellow Board Directors Institute GCC in the Middle East) mentioned that what is/isn't a leading indicator depends on the organisation or the industry. For example, near-misses are a popular leading indicator in oil and gas, but in aviation a near-miss is considered a lagging indicator.



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Safety and well-being

Many of the panelists agreed that it is not the indicators themselves, but the quality of them that really counts. This makes sense. A management walk-around itself does little, unless there are meaningful observations and conversations happening on site. Teg Matthews (Vice President, SafeStart), who conducts focus groups with HSE managers, cites that when it comes to certain leading indicators, like pre-shift briefings, managers know how important they are, but they're not convinced they're as effective as they can be. So, how can one ensure that their lead indicators are effective?

“It's a structural issue”, says Mr. Salman: “if safety and well-being are not discussed together with productivity and profitability, then that organisation can have as many leading indicators as they like, and their impact will be minimal”. He explains that the first tell-tale sign he looks for is the power distance between the “top guy” and those in charge of health and safety. The next thing he looks at is the closure rate. “It's not the audits or number of non-conformances or gaps you find, but rather how quickly the organisation closes them in a meaningful manner”.

Ahmed Khalil (EHS Director, Bahrain Petroleum Company) adds that the effectiveness of any KPI or leading indicator all depends on the organisation, but nevertheless it is critical that an organisation looks at both process safety and personal safety when choosing these indicators.

For all of this, the engagement of top management is critical. Abdulla Marzooqi (Independent Regional HSE Expert) from the Middle East, shared that during his time at ADNOC Group in Abu Dhabi, they engaged HR, finance, legal and other corporate managers to do a field visit, talk to the workers and see what maintenance or changes were required. “You can resolve issues on the spot this way”, he said.

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“Many incidents we see become defined as safety incidents and then become a lagging indicator”, he said, “but the root cause is something different. When we're talking to senior leaders and directors, we fail to talk about the causality between root causes and the actual incidents happening in the end”.

Salman Abdulla (Executive Vice President, Emirates Global Aluminium) agrees: “the key word is causation. By looking only at leading indicators, we can't establish if it's going in the right or wrong way. We need to know how leading indicators affect lagging indicators”. He explains that at his company, they undertook a study in which 3 types of training (systems, equipment, and behavioural) were analysed to see which had the best causation in terms of driving the lagging indicators down, and what they found was that it was not the training on safety management systems or the equipment, but rather behavioural training was the only type of training that had a direct relationship. Ed Stephens (Global HSE/SA Manager, ABB) speaks down a similar line of root causes. “You have all your traditional leading indicators, but when you really start to focus on the employee and when real work is being done, the things that are causing them to be rushed, frustrated, or tired – those are the key leading indicators you need to focus on”.



Leadership involvement

Arun Subramanian (Associate Vice President & Head - HSE, Coromandel International Limited in India), believes that one of the key leading indicators is the transparency and commitment of top leadership. "If that is visible, a lot of things are put in place". But, engaging top management is easier said than done.

"One of the biggest challenges", Dr. Waddah says, "is that one of the most important things that HSE practitioners are not able to explain to leadership is that leading indicators are important because of their causality. You have to say 'look, if these leading indicators become better, you're going to get better performance', but because there is a time gap, there needs to be a leap of faith from leadership". Dr. Praveena explains that you need to show top management the potential negative consequences as well. "What is the worst thing that can happen?", she says, "that will really attract their attention".

Ed also added an important remark. "The indicators that have gotten your incident rates low are not necessarily the ones that are going to keep the incident rates low or get them any lower. What we've learned is that you have to shift the focus back to leadership and change the way you think about safety". With this in mind, something like teaching the Critical Error Reduction Techniques is the next step. That way you can ask people to rate their state on a scale from 0 - 10, and now you can monitor changes or improvements in terms of rushing, frustration, fatigue and complacency.

Larry agrees. "Complacency would certainly be a reliable leading indicator for disasters. It's like the common denominator. But if you are doing fairly reliable Rate Your State conversations on a regular basis, you can get 'barometer' like predictability. In other words, you might not know what minute or even what hour, but you know a storm is coming.

So, what does this all mean?

The insight from these experts seems to suggest that there are no magic leading indicators that can prevent incidents across the board. Rather, there are different leading indicators that work for different companies, but only when they are coupled with transparency and engagement from top-management. And, in the case of hazard ID's and Near-misses, that they are dealt with in an effective and timely manner.

A leading indicator should offer the organisation a picture of the things that are not working well and the things that are, so they can take corrective action before they become incidents or injuries. What matters is that you can present a combination of Key Performance Indicators that get senior management to move in a positive direction.



Take Aways

- ✓ What prevents accidents and injuries is not the indicators themselves, but their quality.
- ✓ Safety and well-being must be discussed together with productivity and profitability.
- ✓ The effectiveness of any leading indicator depends on process safety and the personal safety of employees.
- ✓ The involvement of senior management is essential for safety procedures to be put into practice. You need to show them that if the key indicators improve, they will perform better.
- ✓ Analysing the quality of the training offered and the conditions that most impact the performance of employees is a way of finding out which are the most effective indicators for preventing accidents.
- ✓ As much as organisations seek a “magic formula” that delivers a single leading indicator for accident prevention, the reality is that this depends on many factors, including: communication between employees, directors and other leaders; the safety and well-being of employees; and the involvement of senior leadership in the search for the most effective solutions.
- ✓ Talking to employees is one of the best accident prevention tools. And giving them the opportunity to act proactively, pointing out unsafe acts or conditions of work, can be better than establishing rules “from the top down”, without the day-to-day knowledge of each function and the state of facilities and equipment.
- ✓ A leading indicator should provide the organisation with an overview of results so that corrective action can be taken before they become accidents or injuries.

¹ Based on SafeConnection panels on North America, Europe, The Middle East, India and Asia.

² All opinions expressed in here are purely those of the panelists. They do not necessarily reflect the opinions or views of SafeStart and the panelists' companies.

³ For more information about the SafeConnection Expert Panels and to watch past or current sessions, please visit <https://uk.safestart.com/safeconnection/>.

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