

## Explaining Leading & Lagging Indicators

Many organizations still focus completely on common safety performance measures such as lost time injury frequency rate and number of lost days in an effort to measure workplace safety performance. Unfortunately, such indicators just measure failure to control and give no indication of risk management effort, which take time to come to fruition. Such outcome measures, when used to judge safety performance, are known as lagging indicators.

Significantly however, what organizations are all seeking is continuous improvement towards an incident free workplace, yet when measuring lagging indicators - organizations are only monitoring their performances at the last stage (e.g., how many fatalities, injuries, illnesses and what rate do they experience these in their operations).

Rather, organizations need to examine the processes that lead to these failures and monitor how effective their control mechanisms are in preventing these negative outcomes. Consequently getting a better picture of the proactive measures in place to reduce these outcomes and risks, thus the use of leading measures has to be recommended.

Lagging measures indicate facts about past events. Examples of lagging measures include things like:

- Injury frequency and severity
- Near misses (frequency, trend)
- Fatality or other incidents
- Lost workday rate
- Chemical releases
- Workers' compensation claims (trends and amounts)
- *Saskatchewan Employment Act/The Occupational Health and Safety Regulations, 1996* (number of citations and type)

Leading measures are measurable factors that indicate future value or direction of performance. Examples of leading measures include:

- Employee turnover
- Number of third-party certifications achieved
- Percentage of employee training completed vs. expected
- Frequency of completed inspections vs. scheduled inspections
- Number of new or enhanced safety controls implemented
- Risk or hazard assessments and job hazard analysis
- Employee perception (opinion) surveys.

Leading workplace safety measures are focused on future safety performance. Lagging workplace safety indicators often indicate progress toward compliance with safety rules. Both are essential for workplace safety.

A workplace safety program striving for excellent performance will use a mix of leading and lagging indicators. For example, the effectiveness of employee training can be measured with leading measures and with lagging measures. Measuring change in on-the-job safety performance is a leading indicator of training effectiveness. Training measured against compliance with regulations is a lagging indicator of performance.<sup>1</sup>

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<sup>1</sup> "Making the Business Case for Environmental, Health and Safety", Business & Legal Resources.

Lagging indicators measure an organization's safety consequences in the form of past incident statistics. On the other hand, leading indicators are the precursors that may "lead" to an incident or injury.

To attain "Zero workplace injuries", workplace safety performance is best measured by both lagging (after-the-fact) and leading (before-the-fact) indicators. Counting the injury (Injury Rate) is after-the-fact – a lagging indicator. Before-the-fact control of hazardous conditions and response to incidents can reduce injuries – a leading indicator.

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<i>Good, Average, Bad Leading Indicators</i>		
GOOD ONES	AVERAGE ONES	BAD ONES
Corrective action implementation rates	Attendance rates at safety meetings	Number of inspections/evaluations conducted versus planned
Average time to implement corrective measures, etc.	Number of safety communications issued	Number of contacts made with the safety department
Percentage of incidents investigated and corrective action performed	Percentage of incidents investigated	Degree (?) of implementation of site safety action plans
Number of safety suggestions made by employees being implemented	Number of safety suggestions made by employees	Degree (?) of resolution of audit / evaluation / assessment findings
Number of positive rewards and recognition given for safety performance	Percentage of training completed	Percentage of behaviors observed which are "safe"
Number of (lack of) repeat incidents	Percentage of safety surveys completed	Number of near misses reported
Percentage of Job Safety Analyses (JSA) completed for critical jobs	Number volunteering for safety committees	Ratio of near misses to incidents reported <small>63</small>

additional Safety Talks specific to Safety Management System (e.g., elements, Risk Matrix) are available on [www.saswh.ca](http://www.saswh.ca)

### Safety Talk Discussion

**Be Accountable: Choose safety - work safe - and go home injury free!**