Focus On: Program Evaluation and Improvement – Leading and Lagging Indicators

You should be evaluating your safety program on a regular basis – at least annually – to determine what is working and what's not and whether the program is on track to meet its goals. Tracking and analyzing leading and lagging indicators are one effective way to monitor the performance and progress of your safety program.

Leading and Lagging Indicators

In his 2014 article, Kyle W. Morrison gave a perfect example of leading and lagging indicators. "Leading indicators are pre-incident measurements, as opposed to lagging indicators, which are measurements collected after an incident occurs. For example, a flat tire is a lagging indicator because the blowout already has occurred, but an inspection that notes the poor quality of the tire and prevents a blowout from taking place is a leading indicator."

To put it another way:

- Leading indicators are pre-incident measurements; and
- Lagging indicators measure performance based on past incident and injury numbers or statistics.

Lagging indicators tell you how many people got hurt, how they got hurt, and how badly the injuries were. Examples of lagging indicators include:

1. Injury logs
2. Injury frequency and severity
3. Days away from work/lost workdays
4. Worker compensation costs
5. Insurance premium costs
6. Property and equipment damage costs
7. Chemical release

Lagging indicators don’t tell you how well your organization is doing at preventing incidents and injuries. That’s where leading indicators come in.

Leading indicators are all about future performance and continuous improvement. Leading indicators help you see how well your organization is doing by measuring activities aimed at preventing injuries. Some popular leading indicators are:

1. Training
2. Tool box talks/safety meetings
3. Inspections and audits
4. Hazard assessments
5. Hazard and near-miss reporting (observations)
6. Equipment/machine maintenance
7. Safety committee participation

Leading and lagging indicators can be either quantitative or qualitative.

- The number of reported hazards and near misses would be a quantitative indicator.
- A single worker expressing a favorable opinion about program participation would be a qualitative indicator.

Whenever possible, select indicators that are measurable (quantitative). Quantitative indicators will help you better determine whether you’ve reached your program goals.

Improve and Correct

When a problem is identified in your safety and health program, you (the employer), in coordination with supervisors, managers, and workers—must take prompt action to correct the problem and prevent it from happening again.

How to accomplish it

- If you discover program shortcomings determine how to correct the issue. Get input from your managers and employees and research what others in your industry have done/are doing.

- Continually seek input from managers, workers, supervisors, and other stakeholders program improvements.
- Determine whether changes in equipment, facilities, materials, key personnel, or work practices trigger any need for changes in the program.
- Determine whether your performance indicators and goals are still relevant and, if not, how to change them so they tell a more accurate picture and drive improvements overall.

Scope and Timing

The scope and frequency of program evaluations will depend on the scope, complexity, and maturity of the program and on the types of hazards it must control. Program evaluations should be conducted periodically (and at least annually) but might also be triggered by a change in process or equipment, or an incident such as a serious injury, significant property damage, or an increase in safety-related complaints.