

# RISK SIMPLIFIED

## QUESTIONS

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## Improving Safety Programs with Leading & Lagging Data

As Edward Deming said, “Without data, you’re just another person with an opinion.”

This edition of Risk Simplified will help districts understand how to use two types of metrics, leading and lagging indicators, to increase their safety program’s effectiveness.

When measuring injury and loss-related data, lagging indicators are the most commonly tracked by organizations. Lagging indicators measure outcomes, and may include the following:

- Injury severity rate
- Injury frequency rate
- Cal/OSHA incident rate
- Number of lost workdays; and
- Trending of injury causes, locations, and occupations

Alone, lagging indicators do not determine if an organization’s safety management procedures can produce sustainable results. This is due to what statisticians call natural process variation. When applied to safety, natural process variation states that incident rates can (and do) vary regardless of proactive measures initiated by management. In other words, one year the organization is lucky; the next year, it is not.

A leading indicator is a measurement of a critical activity known to impact lagging indicator data. They are causal in nature and are used to influence outcomes. Therefore, in an attempt to better understand the driving forces behind safety program outcomes, organizations should rely on tracking safety management practices.

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Although not a complete list, common leading indicators for organizations with effective safety programs include:

- How many safety trainings or tailgate meetings were conducted
- Whether the average score of post-training testing is increasing or decreasing
- The frequency and qualitative results of safety inspections
- The number of hazards or near-miss incidents reported by employees
- Instances of employee coaching, disciplinary actions, and positive recognition

Remembering the relationship between the two types of indicators is essential. Lagging indicators can only record what has happened while leading indicators are causal in nature. Together, leading and lagging indicators allow organizations to monitor outcomes and make adjustments to change or sustain future results.

## Example - Addressing injury trends

Lagging indicators can be used to identify the types of injuries an organization is experiencing. For example, a review of injury data may reveal that cumulative injuries are a frequent loss cause, and are experiencing an above average cost. This information may help and an organization target safety management resources.

Leading indicators can then be used to monitor and improve the safety program, as it pertains to cumulative strains. To focus on an injury trend, leading indicators should be tailored to the trend. An organization might track the following leading indicators to curb a cumulative injury trend:

### Cumulative Injuries: Leading Indicators

- Number of cumulative strain prevention trainings or tailgates conducted
- Number of inspections focusing on the top five causes of cumulative strain injuries
- Number of observations where employees utilized mechanical aids (e.g., forklifts, hand trucks, carts) instead of manually handling materials and equipment
- The condition of mechanical aids and whether any defects were noted during routine inspections (e.g., do cart wheels roll smoothly, cafeteria tables fold easily, if tires are properly inflated)
- Whether employees regularly report hazards or near-misses relevant to cumulative strain injury prevention
- Number of observations where employees utilized safe lifting techniques or team lifting when mechanical aids were deemed infeasible; and
- Instances of employee coaching, disciplinary actions, and positive recognition relevant to cumulative strain injury prevention

PRISM encourages members to monitor leading and lagging indicator data on a periodic basis (e.g., quarterly or semi-annually). There is not a one size fits all grading system to determine if your indicator scorecard is adequate. Instead, focus on small improvements that are sustainable over

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time. If your district conducts frequent training but does not perform regular self-inspections, a goal of conducting inspections once a quarter may be adequate to see improvements.

## Importance of Quality Loss Data

When looking at rates or trends in loss data for lagging indicators, the summary is only as good as the information used to create it. This is one of the reasons that having accurate loss data is paramount. Each person responsible for entering and/or recording the claim information must do so following the same set of rules and parameters.

The following are some common inaccuracies:

- Inconsistent information – ‘Facilities’ is entered for the department, and on a separate claim ‘Facilities Department’ this would create 2 different departments, when in fact both entries should have matching departments.
- Missing information – Leaving a field blank or selecting unknown when documenting a claim can create issues when trying to analyze large sets of claims. For example, if entries in the data set are missing the occupation of the injured worker it would be impossible to determine trends based on job title.
- Generic information – Utilizing catch-all fields when recording the nature and/or cause of an injury or claim. For example when entering the cause of a workers compensation injury using cause codes such as ‘Other – Miscellaneous, NOC’ or ‘Cumulative, NOC’, will result in very low quality data when trying to determine what is causing employee injuries.

Imagine these types of errors throughout a data set with thousands of entries – it would be difficult to identify and nearly impossible to correct. Consistency and accuracy will allow the information to be summarized in a useful way for the organization.

It is difficult to initiate successful outcomes without using leading and lagging indicator data. PRISM’s Risk Control Specialists can help your district determine which indicators to track and how to set a reasonable action plan to increase your safety program’s effectiveness. For any additional questions regarding this topic or related regulatory requirements, contact the [PRISM Risk Control Department](#).