

CAL/VPP Workshop Sacramento Safety Center July 10, 2024



DEVELOPING EFFECTIVE LEADING INDICATORS

Iraj Pourmehraban Cal/VPP Manager, PE, CSP Ipourmehraban@dir.ca.gov



LAGGING INDICATORS

- OSHA recordable rates
- OSHA citations
- Worker compensation claims
- > Experience modification rate
- They can't tell the entire story. It's the end result of many factors.

ANSI Z-10



These (injury and illness) rates, however, should rarely be the sole or primary tool to evaluate performance of an OHSMS [Occupational Health & Safety Management System], for several reasons. Primarily, these rates measure the very injuries, illnesses and material losses that a management system is trying to prevent. When injury indicators are the only measure, there may be significant pressure for organizations to "manage the numbers" rather than improve or manage the process.



LEADING INDICATOR

According to Dan Peterson: "A leading indicator is predictive. It measures what people are doing today that might prevent illness or injury tomorrow, in contrast to a trailing indicator which measures the result of lapses in the safety program"

LAGGING & LEADING INDICATORS





CAL/VPP CULTURE





IDENTIFICATION OF LEADING INDICATORS



- > No simple one-stop shopping
- Does it impact the success of safety performance?
- Has management endorsed this approach?
- Can I put a measure to it?
- Is it working as desired?
- Does it play a part in engaging the management team in meaningful activities?
- Is management accepting the metric as valid?

IDENTIFICATION OF LEADING INDICATORS (CONT)



How easy is to collect the data for metric?

> What good is it? What is it telling us?

> Aligning expectations with management

Using leading indicators as part of management staff performance review

MEASURING LEADING INDICATORS





> If you can't put a number on it, you can't measure it.



"What gets measured, gets Managed."

Peter Drucker, American Management guru, (1909-2005)





LEADING INDICATORS MUST BE SCALED

- Have a clear understanding of "1-10" and 0-100% type Scales.
- If not scaled properly, indicators will almost immediately begin scoring "High 90's" or "Perfect Performance"
- When any scale consistently indicates these HIGH scores, it no longer has any use. It must be "Re-Scaled" or replaced.



APPLYING SMART PRINCIPLE

- > Specific
- > Measurable
- Accountable
- Reasonable
- > Timely

CHOOSING LEADING INDICATORS



- Needs management staff & hourly employees' agreement
- > Make them simple to understand
- Set a form of measurable metrics such as number of events per month or percentages
- Identify action plans to achieve them
- Communicate priorities & increase employee involvement
- Develop tools such as checklists, scorecards, dashboards



FOLLOW UP ON LEADING INDICATORS

For each leading indicator:

- Quality check/audit the associated activities/data
- Review them frequently & make adjustments as needed
- Communicate the results periodically to all levels of organization
- Leading indicators success, support success of lagging indicators
- Inappropriate indicators can be detrimental

PLAN-DO-CHECK-ACT CONCEPT

- 1. Define what is to be accomplished
- 2. Develop and execute the improvement plan
- 3. Track what is done and how well it is done
- 4. Identify opportunities to improve the plan and/or execution and make appropriate changes
- 5. Continue the Plan-Do-Check-Act cycle until the acceptable level of performance is attained and the desired performance is maintained





TYPES OF LEADING INDICATORS



System Based Indicators connect to Cal/VPP elements

- Operational Based Indicators associate with infrastructure/equipment
- Behavior Based Indicators relate to people-to-people interactions

LEADING INDICATORS CONNECTED TO CAL/VPP



> Leadership & management commitment Safety training > Workplace inspections > Near miss events Employee involvement > Contractors' safety programs > Operational or process

MANAGEMENT STAFF



> Top management safety visits that take place Safety meetings held by managers > Managers attendance of safety review meetings Trainings performed & attended Incidents reported and root causes analysis > Inspections conducted with corrective actions > Hazards identified & corrective actions status



NEAR MISS & INCIDENTS

- Employees' knowledge & understanding
- > Number of reported
- Root Cause Analysis performed
- Developed corrective actions
- > Implemented corrective actions

SAFETY TRAINING



- Qualified management & hourly employees perform trainings as scheduled
- Employee attendance & overdue training
- Delivery methods audits
- Fest results & knowledge gained
- > Changes in training budget



SUGGESTIONS & COMMUNICATION SYSTEMS

Safety Suggestions

Reported

- Average response time
- Reviewed
- Implemented

Effectiveness of communication systems

- Senior management communicating safety to the general workforce
- Senior managers visit the workplace



WORKPLACE SAFETY INSPECTIONS

- > Inspections planned and completed on time
- > True hazards are identified during inspections
- > Performed on time by trained employees
- Repeat/increased hazards
- Corrective actions completed on time
- Open corrective actions

CONTRACTORS



- Contractors meet the approval criteria
- > Area inspections completed as scheduled
- Findings deficiencies during observations
- Corrective actions closed out
- Tailgate meetings conducted & attendance
- Safe practices observed
- Incidents or near misses have root causes associated with contractor activities



EMPLOYEE INVOLVEMENT

Safety meetings conducted & attended by employees
Training & inspections
Job safety analysis performed
Suggestions & near misses reported
Workers participated in key activities
Special projects



OPERATIONAL BASED

Number of regulatory inspections without findings

- Equipment and preventive maintenance
- Prevention through design
- Training
- Management of change process

BEHAVIOR BASED

CAL/OSHA

- Number of observations
- Ratio of positive to negative observations
- Number of observers
- Percentage of supervisors meeting observations goals
- Ratio of peer-to-peer observations to supervisory observations
- Hazard severity of observations
- Ratio of high-risk observations to low-risk observations
- Percent of coached observations
- Number of employees personally engaged by supervisors in walkarounds
- Number of employees leading safety meetings



SUMMARY

- > No one set of indicators works for every location
- > H&S needs to have a key role
- Check the collected information and adjust
- Validate, validate, validate
- > The right leading indicators impact the lagging indicators



REFERENCES

> ANSI Z16

Campbell Institute

> OSHA 3970

