Leading and Process Metrics

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Objectives

★ Describe Leading/Lagging Metrics
★ Dispute Leading vs. Lagging Relevance
★ Present Process and Outcome Metrics
★ Summarize the Metric Process
Problems With Current Measure(s)

☆ Incidence rates do not drive superior health and safety performance
  - Overly inclusive
  - Not very accurate
  - The more pressure, the less accurate they get

☆ Incidence rates are an *Indicator*, NOT a true *measure* of program performance
  - Retrospective, little predictive value
  - #'s and reports can be driven underground
  - Root causes seldom identified
  - No relationship between program and effect

☆ The historical Health & Safety measurement mindset is:
  - One of tracking failure
  - Showing loss avoidance
  - Not positive contribution to the business
Classic Metrics

☆ Retrospective (Lagging)
  ★ Incidence Rates
  ★ IH Overexposures

☆ Prospective (Leading)
  ★ Corrective action plans/commitments developed/completed
  ★ Self-Assessment Scores
  ★ Safety Work Orders Completed
  ★ Training Completed
  ★ Safety Observation Scores
  ★ Employee Perception Survey Results
  ★ Training Effectiveness
  ★ Root Cause/Causal Factor Analysis
Leading or Lagging?

Industrial Hygiene Overexposures

☆ Leading (predictive) metric for Disease

☆ Lagging metric for IH Programs
Leading or Lagging?

Safe Behavior

☆ Leading (predictive) Metric for Incidents

☆ Lagging (retrospective) Metric for Motivational Programs and Culture
Adjusted Metrics Concept

☆ Retrospective (Lagging)
  ✤ Incidence Rates
  ✤ Industrial Hygiene Overexposures

☆ Prospective (Leading)
  ✤ Process
    Management Systems Assessment Scores
    Training Effectiveness
    Root Cause/Causal Factor Analysis
    Etc.
  ✤ Outcome
    Corrective action plans/commitments
devolved/completed
    – Safety Work Orders Completed
    – Training Completed
    – Inspection Findings Closure
    – Investigation Finding Closure

Completion of Goals and Objectives
Safety Observation Scores
Employee Perception Survey Results
Process and Outcome

Input
- Manpower
- Design
- Procedures
- Materials
- Training

Process
- Product
- Service

Output
- Waste

Outcome
- Mission Progress
- Commitments Met
- Safety (IIR)
- Satisfaction
- Compliance
- Citations

Rework
Job Hazard Analysis Process

1. Define Steps
2. Identify Hazards

Corrective Actions

Record-keeping

Process Assessment

Follow-up

Training and Communication

Safe Working Procedures

Training

“High” Hazard Tasks

Identify “Priority” Schedule for Hazard Analysis

Establish Hazard Analysis Team

Hazard Analysis Process

Goals & Objectives

Injury/Illness History

Review Job Task

Interview

Standard Operating Procedures

Job Qualifications
Measuring JHA Success:

Input

Process

Output

Theory

Outcome

Manpower = Diversity of team
Design = Benchmark
Procedures = Field Tested
Materials = ?
Training = Quality (student evaluation)
Measuring JHA Success:

Input ➔ Process ➔ Output

Assessment Score
% Actions Met
% Actions Met on time?

Theory ➔ Outcome

Waste = % failed after QC
Rework = % modified after QC
Measuring JHA Success:

- **Input**
- **Process**
- **Output**
- **Theory**
- **Outcome**

Product = # of JSAs
Service = # of Changes
Training Attendance
Training Retention
Measuring JHA Success:

- # of incidents with Hazard Analysis as a Root Cause or Contributing Factor
- % of behavior observations in Compliance to procedures
Measure What You Ask For?

☆ If you want a Safety Contact process to stimulate new ideas, measure the # of new Ideas, **not** the # of Safety Contacts.
☆ If you want employees to retain course materials, measure their retention, **not** their attendance.
☆ If you want to reduce incidents, measure exposure reduction, both conditions and behaviors, **not** just incident #'s
☆ If you want management to use your safety programs, measure how much they use the programs, **not** the # of people who get hurt.
☆ If you want safety committees to get involved, measure how often each of them get involved, **not** how often they meet.
Summary and References

☆ How do you measure safety?. Kyle Dotson., Executive Strategies, Industrial Hygiene and Safety News.

Presentation Available at Starconsultants.net  What’s New  Conferences