

*Past performance is not an indicator
of future performance*

*There is no measure of performance
to say “we are safe”*

*Safety is the Presence of Safeguards, not
the Absence of Incidents*

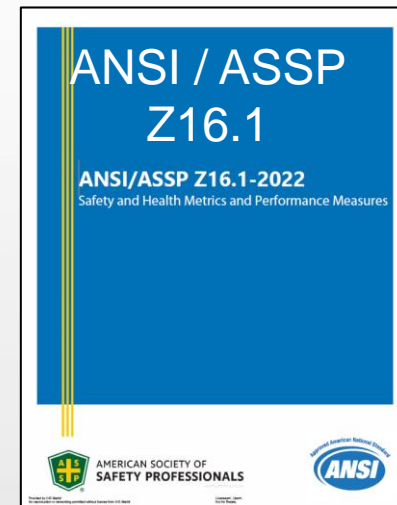
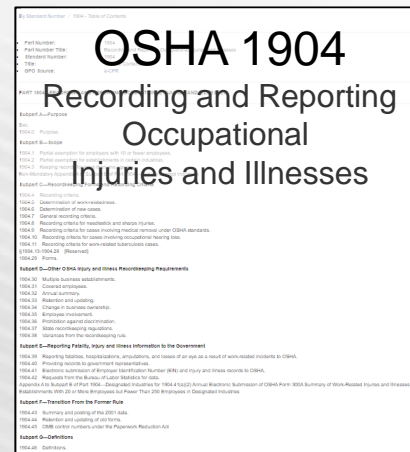
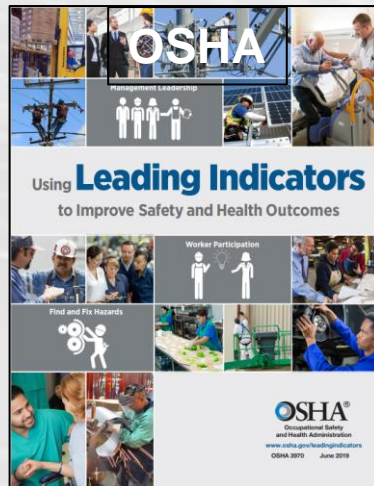
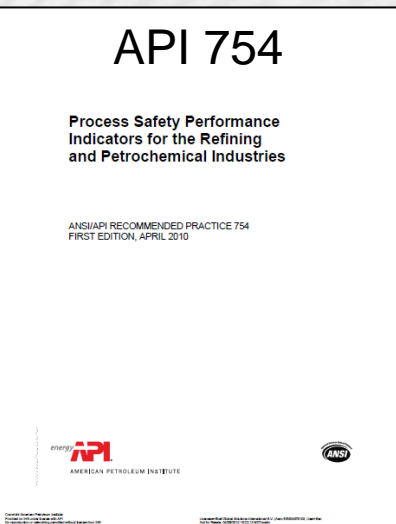
Selecting the Right Metrics

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Objective

Discussion on how to develop the metrics you need,
not to tell you the metrics you need



Discussion Topics

- Why Measure Performance ?
- Use the data we have
- Leading vs Lagging
- Identifying the Right Metric
- Takeaways

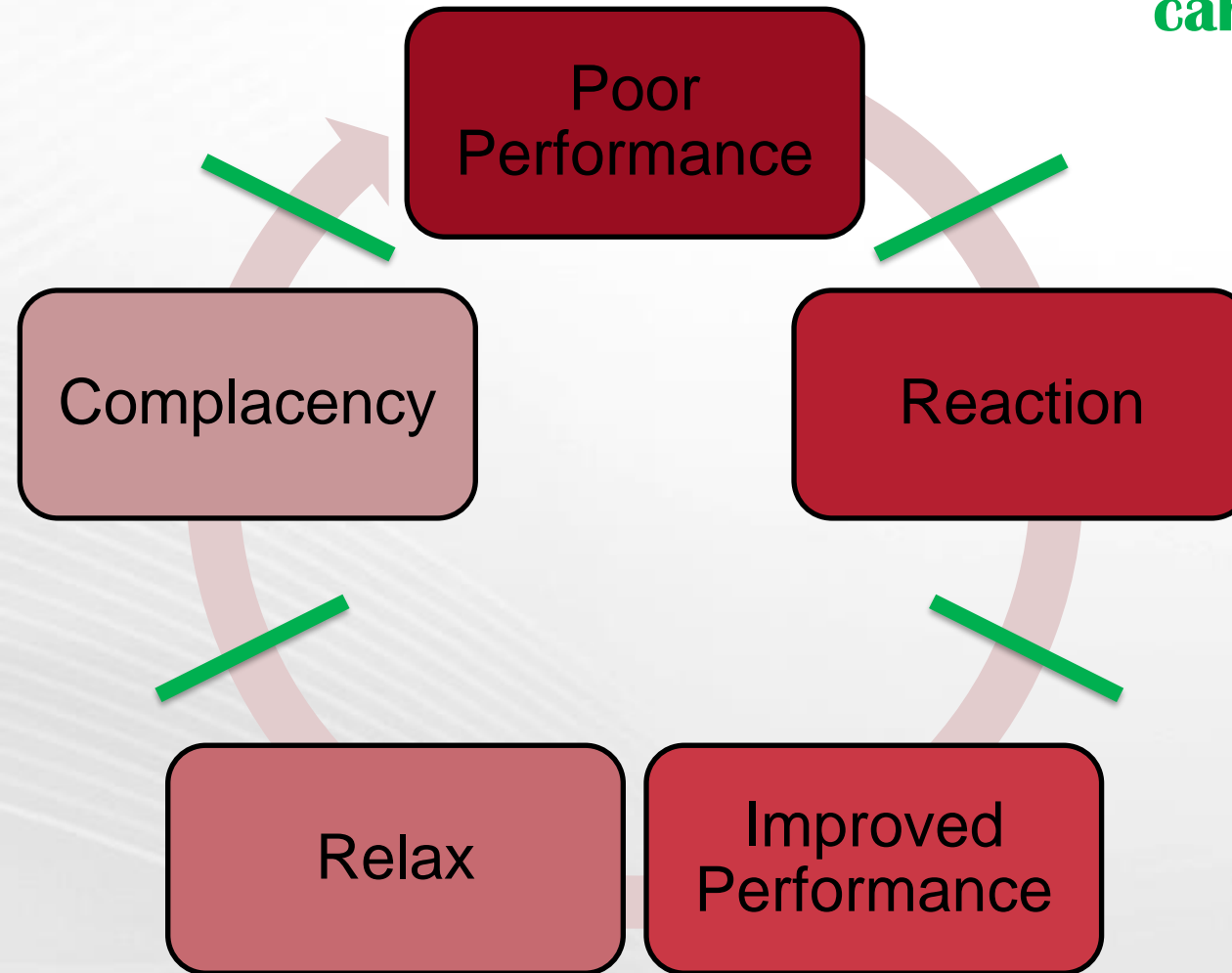
Why measure performance ?

- Safety is a journey, not a destination
- How do we know how far we have come ?
- How do we know how far we have to go ?
- Are we going in the right direction ?



Response to Incidents

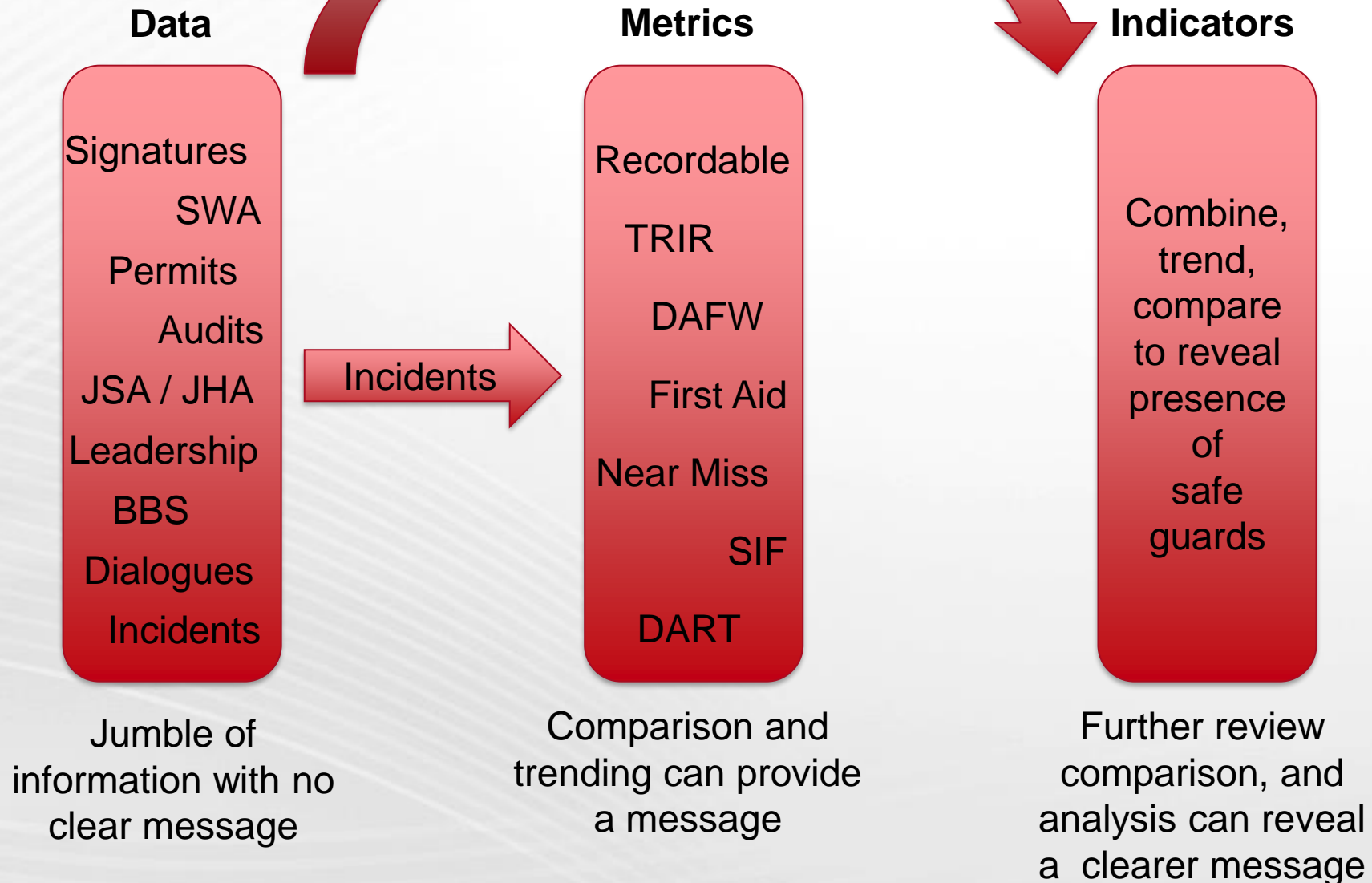
**Better performance metrics
can break the cycle**





Use the Data we Have

Leading Indicators



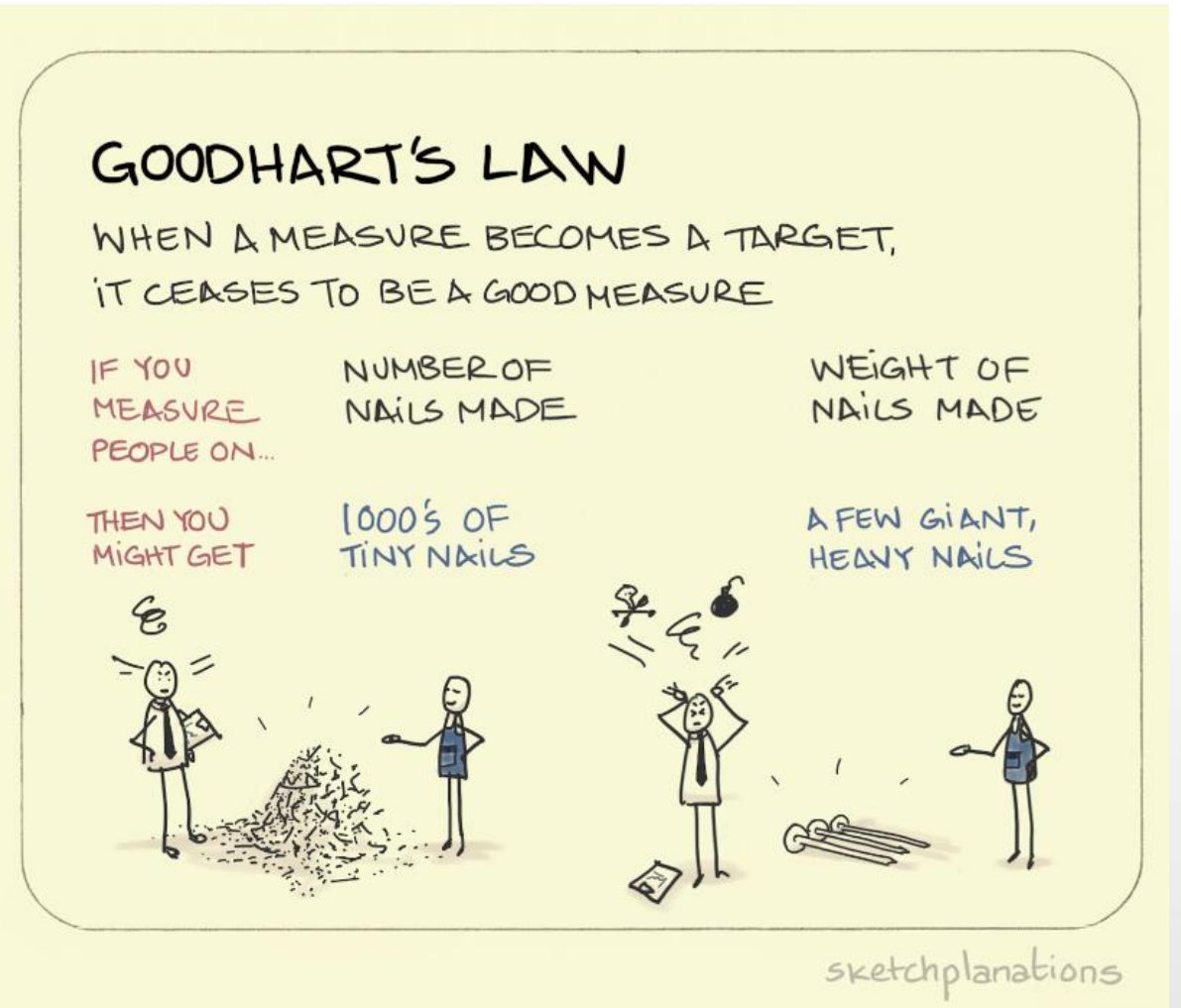
Absolute vs Relative Metrics

- Absolute numbers can be measured and assessed in the moment as good or bad
 - **Number of Recordable Injuries**
- Relative metrics against time or workforce hours can indicate trends
 - Recordable incident trends
 - **TRIR**
- Relative metrics against other metrics can also indicate trends
 - **Recordable incidents vs Serious Injury and Fatality (SIF) incidents**
 - **Comparing number of Recordable Injuries in different facilities**

Goodhart's Law

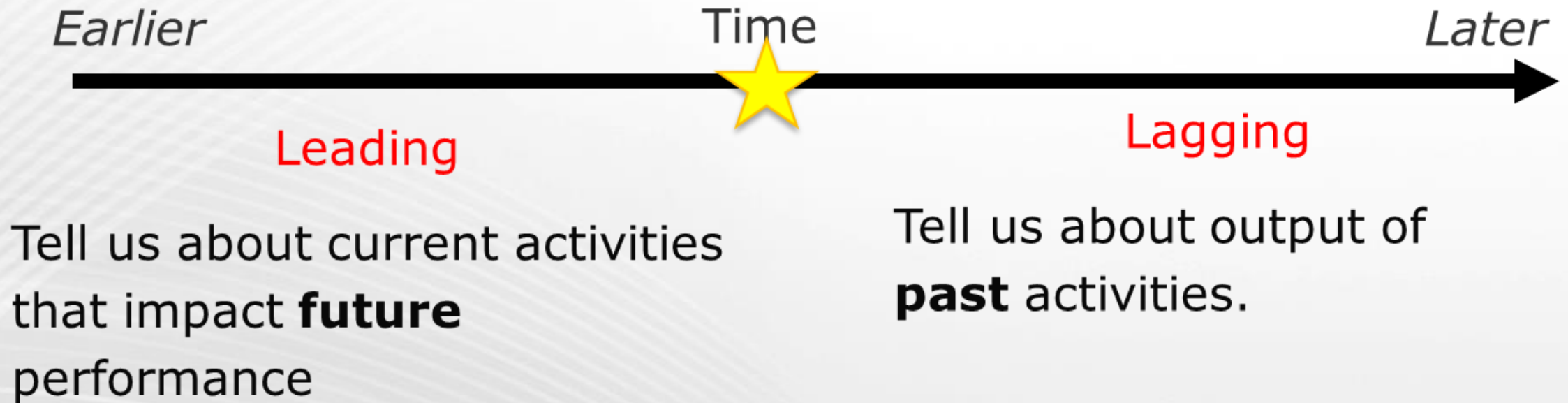
When a measure becomes a target,
it ceases to be a good measure.

“What Get’s Measured,
Get’s Manipulated!”



Leading vs Lagging

Leading and Lagging Metrics



Leading vs Lagging Metrics

Leading

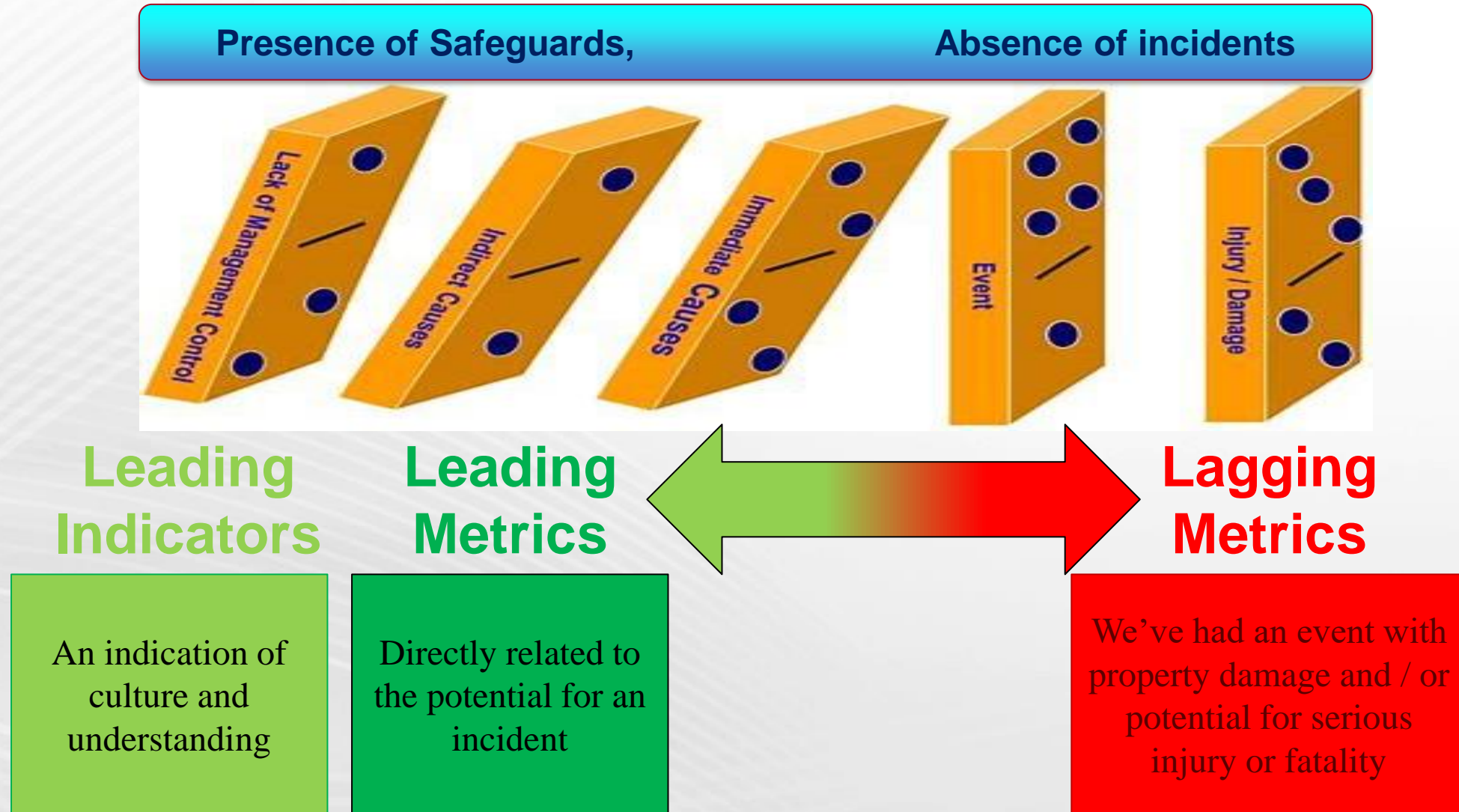
- May need more explanation
- Need more of them
- Inconsistency in reporting
- Can indicate vulnerability and future events
- Focus on positive actions
- Success is more data

Lagging

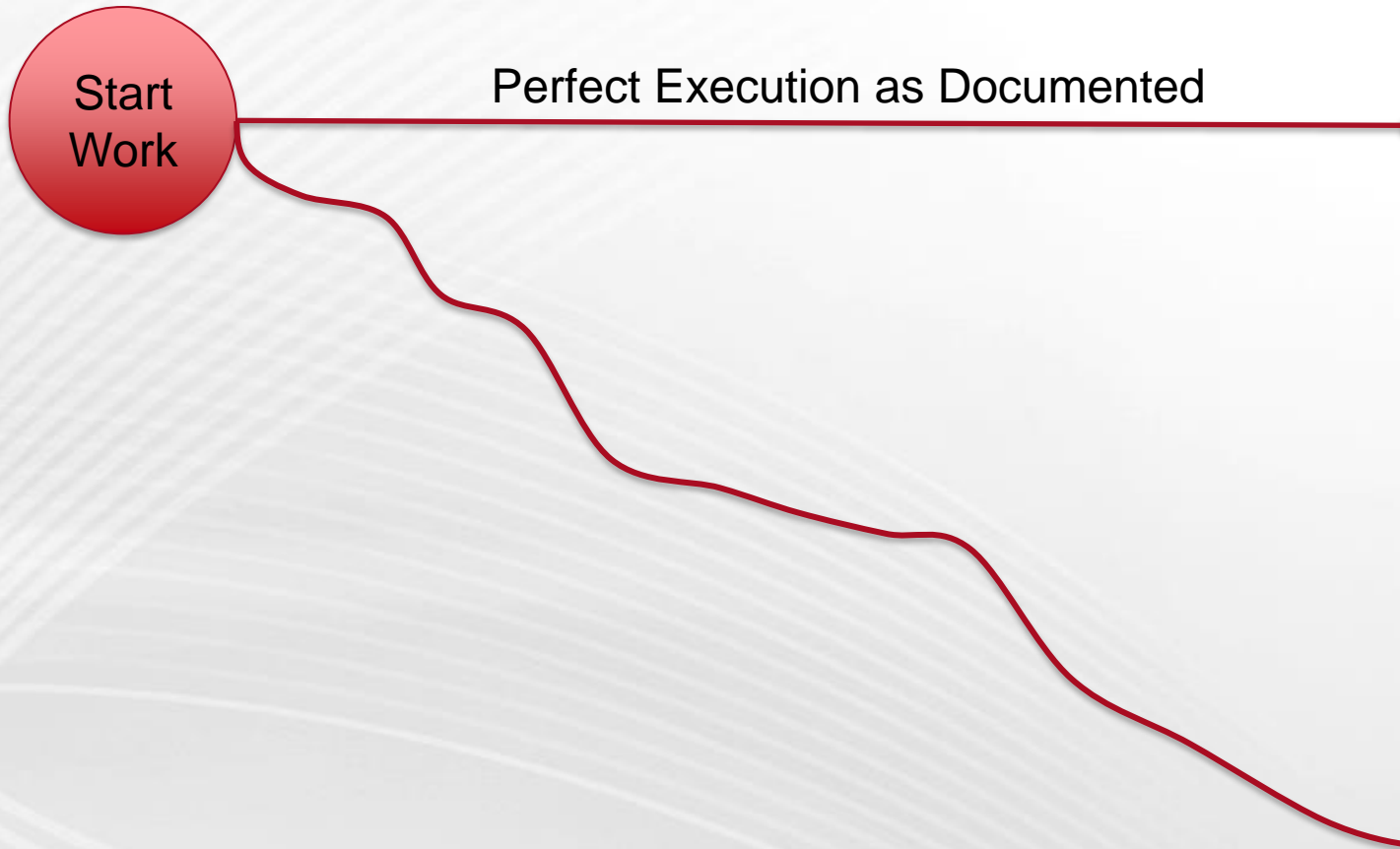
- Focus on negative outcomes
- Easy to collect and understand
- Incident data or direct link an event
- Consistency across industry
- Years of application and data
- Success is less data



Leading vs Lagging Metrics



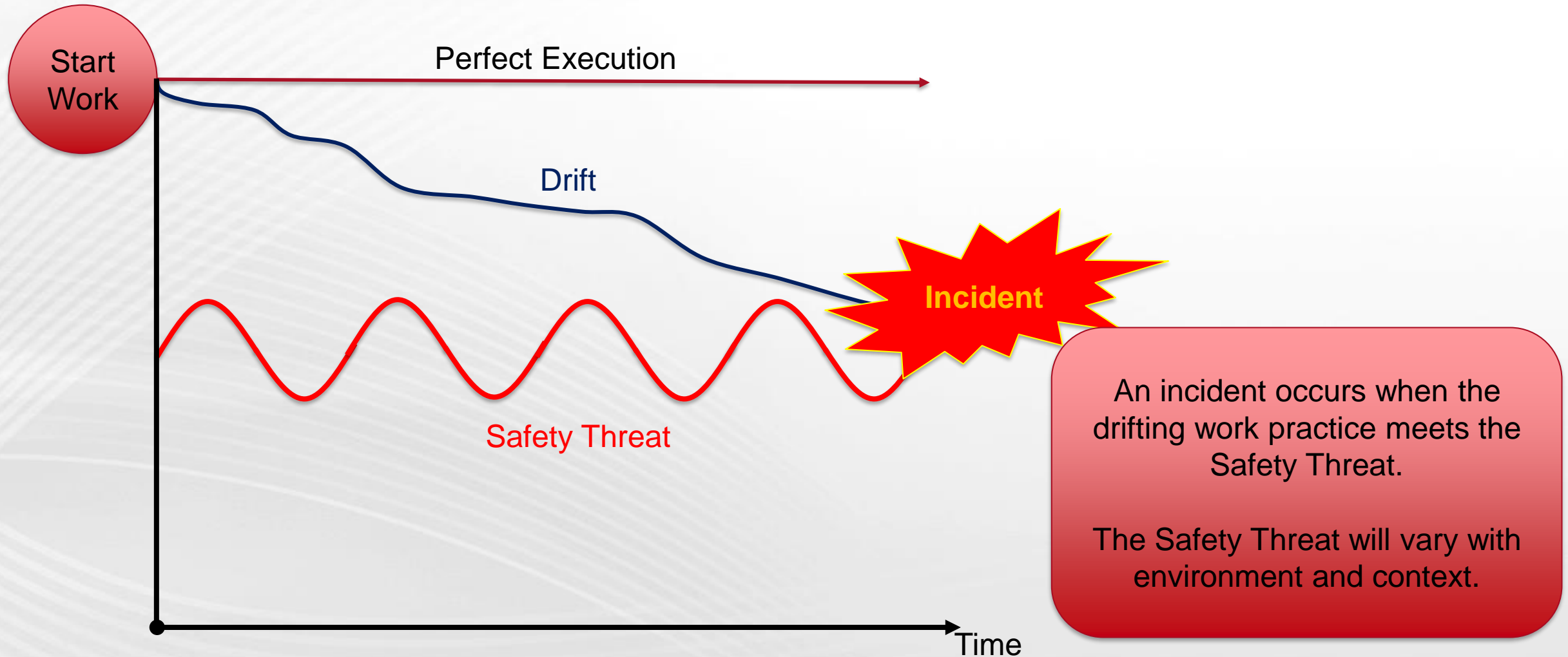
Catching Drift through Leading Metrics



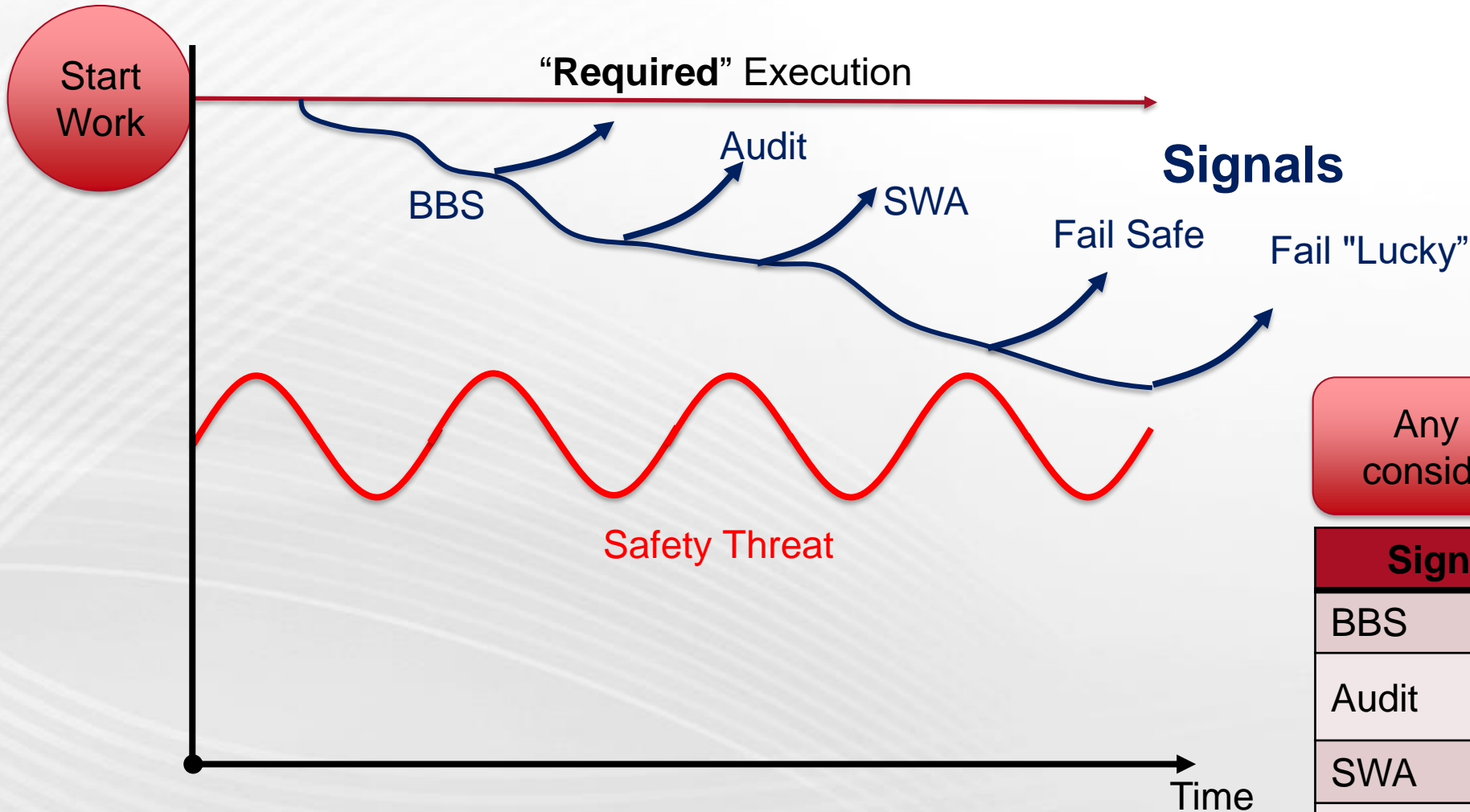
Examples of drift;

1. Inconsistent drawings
2. Out of date corrosion data
3. Hot Work Permit not applied
4. PHA used the wrong data
5. MOC not verified as complete
6. PSSR was tick box exercise
7. SOP was not followed
8. Contractors were not trained
9. No refresher training
10. Employee feedback disregarded
11. Audit findings not addressed
12. Poor quality investigations
13. Inadequate emergency drills

Catching Drift through Leading Metrics



Catching Drift through Leading Metrics

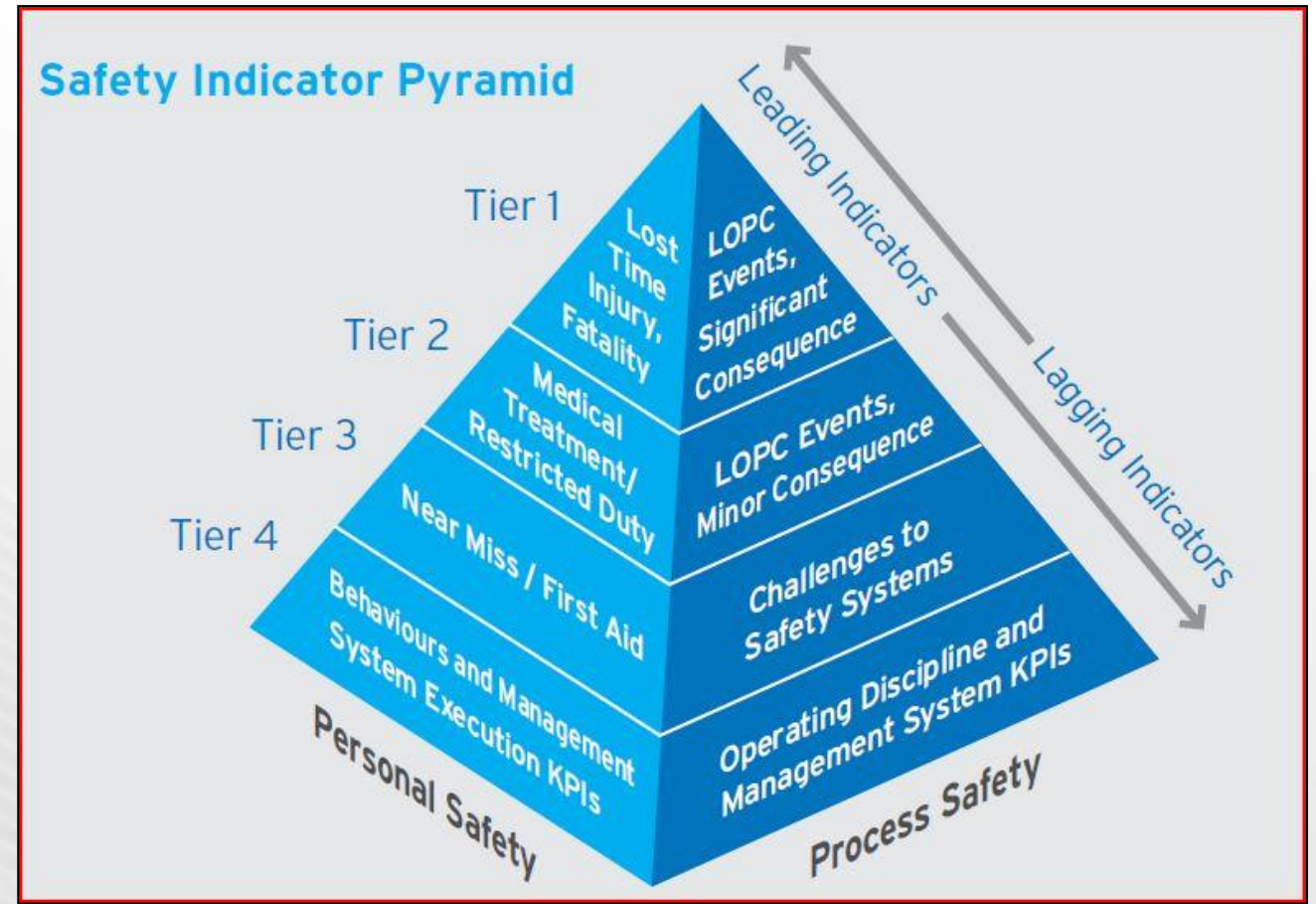


Any signal is a data point to be considered as a Leading Indicator.

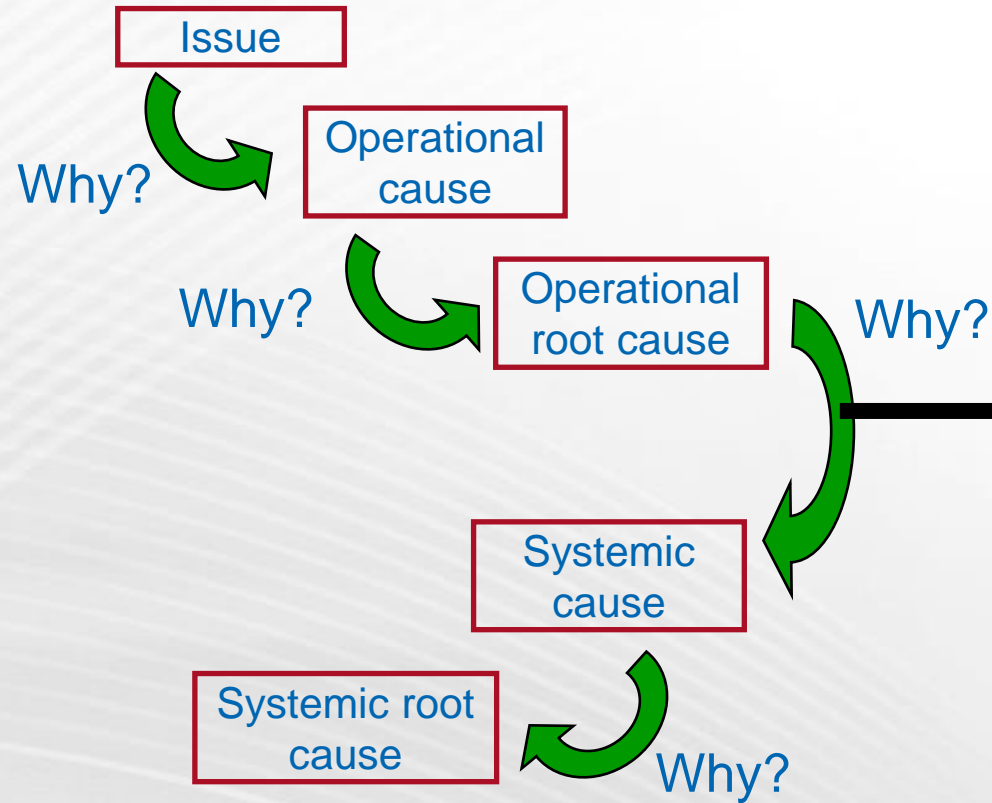
Signal	Metric
BBS	+ve vs –ve observations
Audit	Severity of Findings for different elements
SWA	# of Imminent Danger
Fail Safe	# when Safeguards worked
Fail “Lucky”	# when no Safeguards

Identifying the “Right” Metric

How does Root Cause Analysis apply to Performance Metrics?

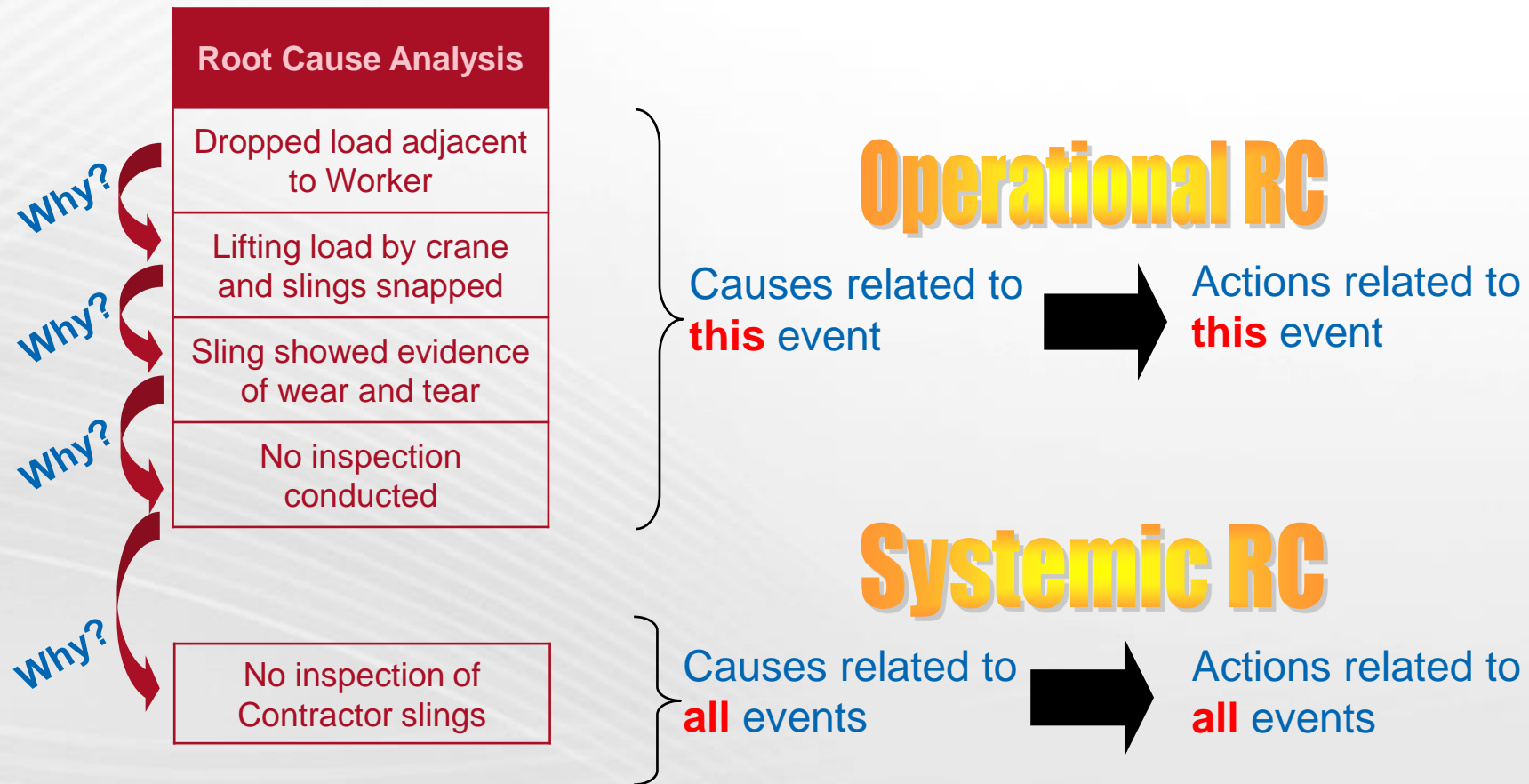


Finding the Root Cause



Root Cause Analysis

How to distinguish between operation level root cause and systemic level?



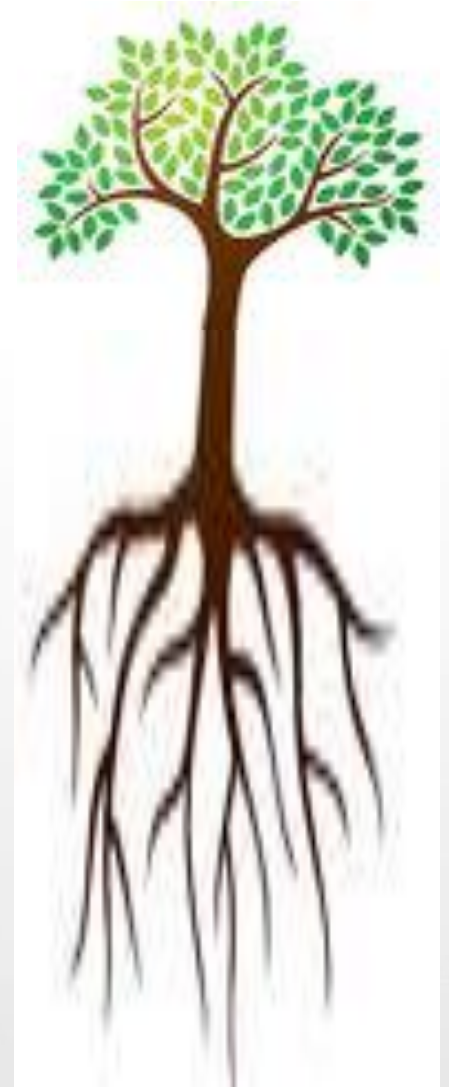
Do we use the right metrics ?

- Lagging Metrics
 - Easy to collect and understand
 - Popular with Management
 - Without trending or RCA, almost no value to prevent incidents
- Leading Metrics
 - Easy to collect
 - Give a feel good factor
 - Provide some value to prevent incidents
 - Focus on doing more
- Leading Indicators
 - More effort to obtain
 - May require more explanation
 - Real value to prevent incidents
 - System level approach

Dropped Loads

Training in
sling integrity or
of slings inspected

%age of
slings removed



Pair Leading Metrics and Indicators

Quantity (Participation)	Quality (Effectiveness)	Objective (Doing the right thing the right way)
Number of slings inspected	%age of slings removed from service	Slings with integrity used for lifts
Percentage of people trained	Field Observations of training application	Demonstrated Competence
Number of Corrective Actions close out	Sample audit of effective close out	Effective close out of Corrective Actions
Number of Incident Investigations completed in 30 days	Assessed quality of incident investigation	Timely learning from investigations

Data + Dialogue = Difference

1. How are we doing?

- What is our current performance?
- How does that compare to our baseline and our goal?
- What does the performance trend suggest about the future?
- How well is our leading indicator working to support our results metric?

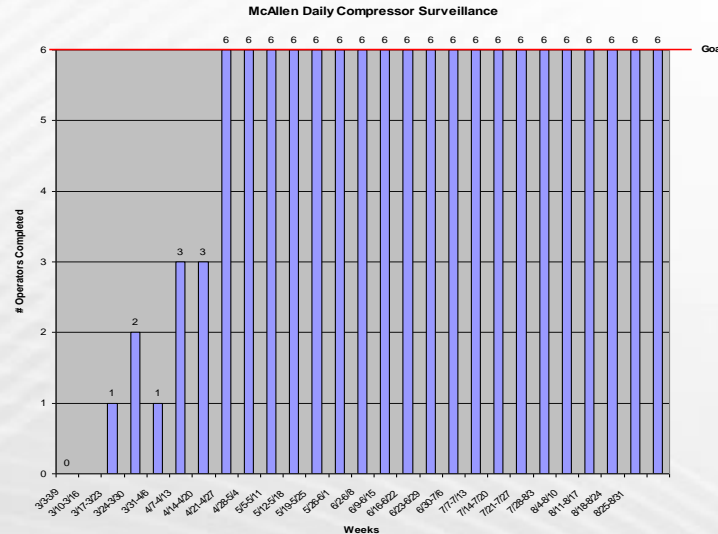
2. What should we do about it?

- If we made progress, what did we do to achieve the results?
- How will we let folks know we appreciate what they're doing to achieve this success?
- If we're not on track, what do we need to do to get back on track?

Combination of Lagging Metrics and Leading Indicators

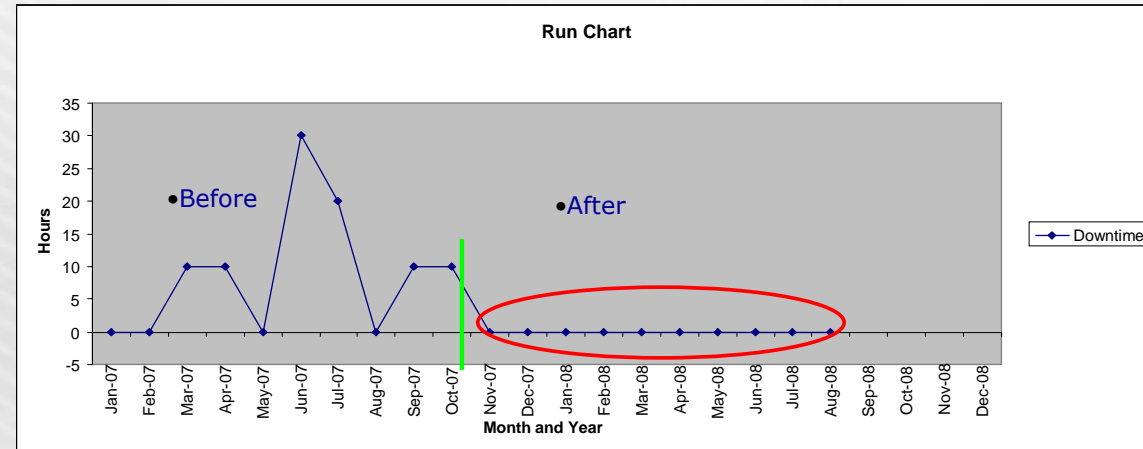
- Informs the dialogue with senior leaders
- Provides clearer message for them to know what they can do
- Direction supported by Metrics / Indicators provides the “what” and “why”

Pair Leading Indicators with Lagging Results Metrics

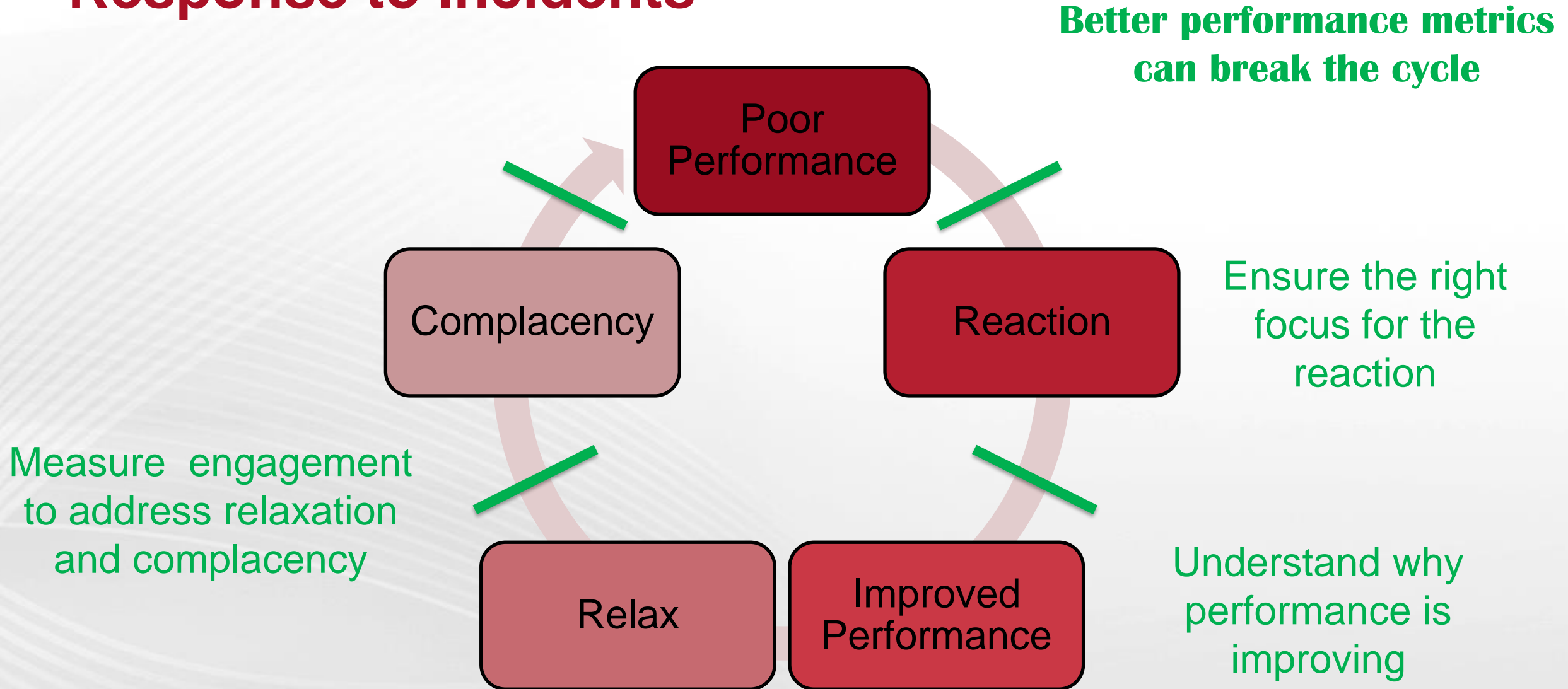


Our leading metric shows 20 straight weeks of 100% of sling inspections on arrival

Our lagging metrics show 10 straight months of no sling failure during lifts



Response to Incidents



Summary and Wrap Up

What are you looking at ?



Leading Metrics



Lagging Metrics



Take Aways

- Lots of data is available, be thoughtful on the intent of each metric
- Decide audience for each metric
- Metrics should promote dialogue and action to “Break the Cycle”
- Leading Indicators are a signal of Drift and a Domino about to fall
- Using Root Cause Analysis can help identify Leading Indicators
- Multiple metrics & indicators are required; Quantity and Quality
- To be meaningful, metrics need to continuously evolve

Questions and Discussion



References

