

Serious Injury and Fatality Prevention

June 19, 2017

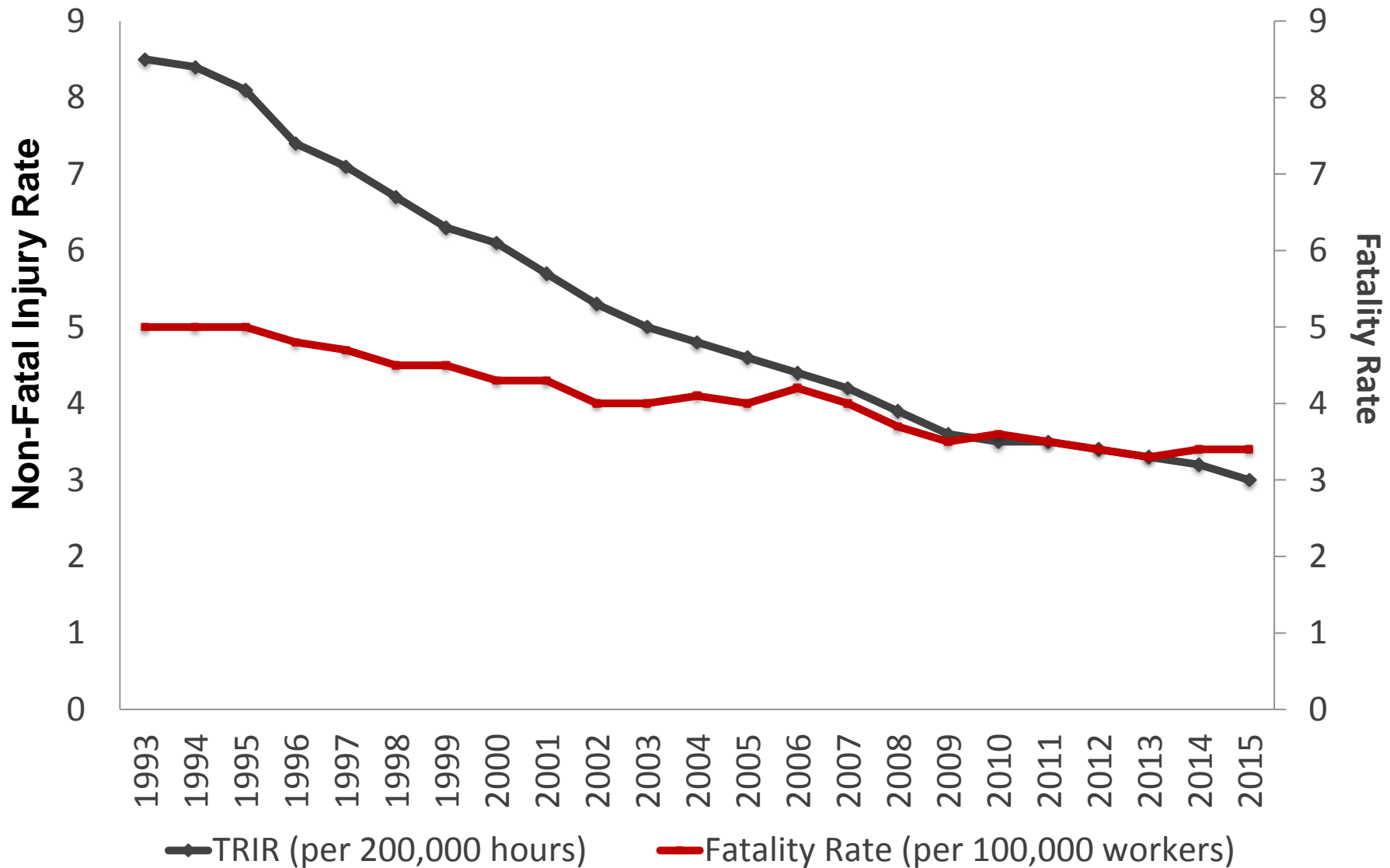


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Agenda

- Research & Definitions
- Key Conclusions
- What to do about it
- Q/A

Incident Rate Trends: Non-Fatal vs. Fatal



Source: US BLS

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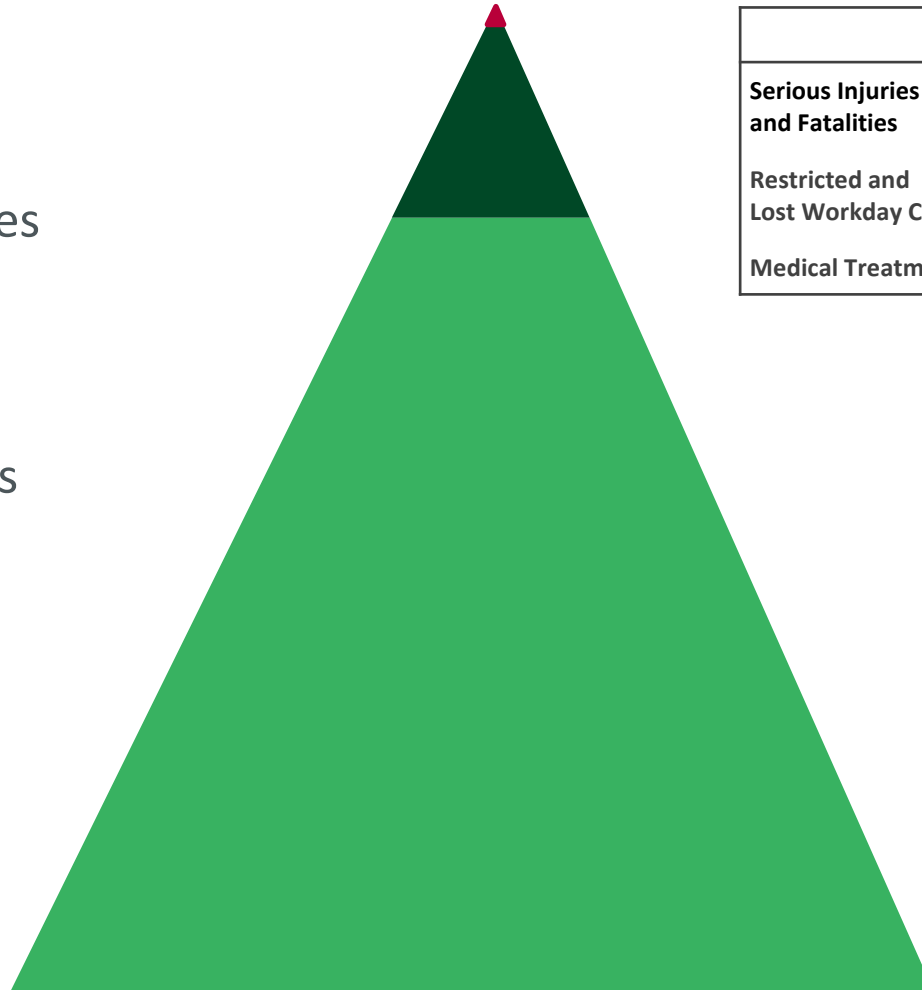
SIF Defined...

- Life-Threatening:
 - Work-related injury or illness that required immediate life-preserving rescue action, and if not applied immediately would likely have resulted in the death of that person.
- Life-Altering:
 - Work-related injury or illness that resulted in a permanent and significant loss of a major body part or organ function that permanently changes or disables that person's normal life activity.
- Fatal:
 - Work-related fatal injury or illness.

Traditional Safety Triangle is Descriptive

1028 Total Cases
Studied

7 Global Clients



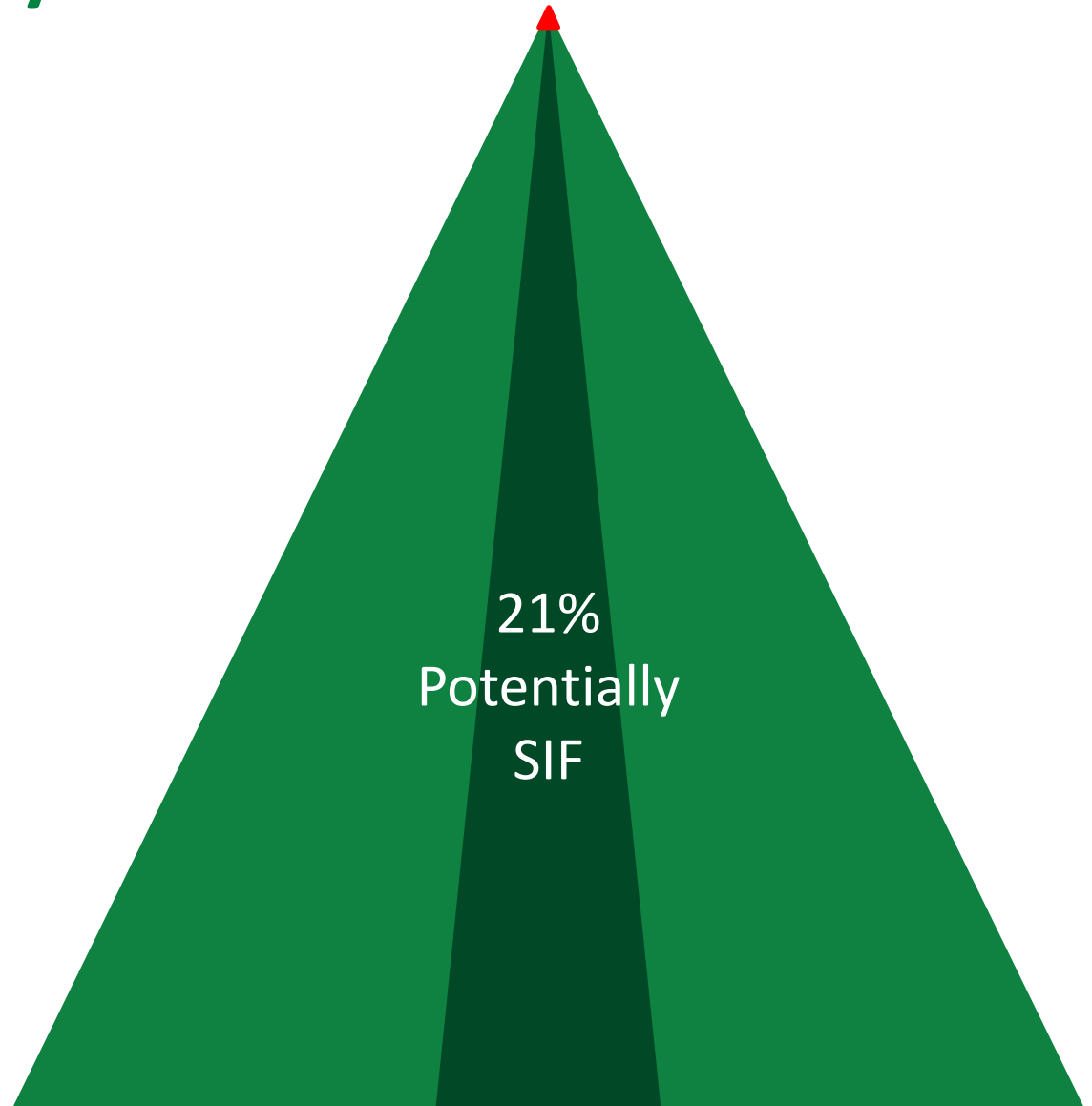
Data from 2008-2009

Average Rate	
Serious Injuries and Fatalities	.0014
Restricted and Lost Workday Cases	0.30
Medical Treatment	0.98

Traditional Safety Triangle *is not* Predictive

A subset of reported cases will have SIF Exposure.

A reduction of injuries across the base of the triangle or working outside the SIF triangle will not correspond to a proportionate reduction of SIFs.



SIF Exposure



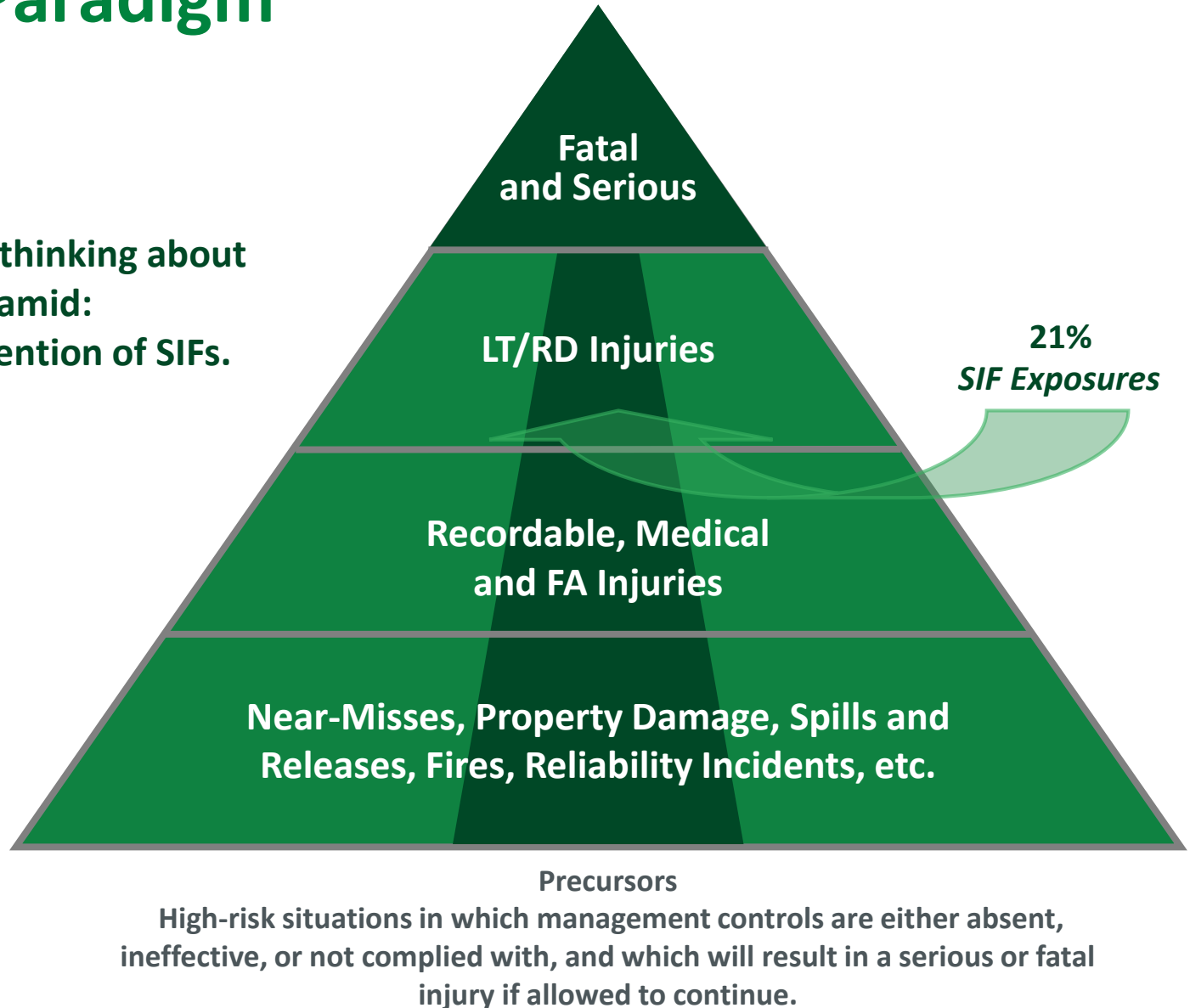
Very few “Actuals” + many “Potentials” = SIF Exposure

The Current Paradigm – Are We Stuck On This?

- SIFs and Non-SIFs have the same causes and correlates.
- You can impact the top of the triangle by working on the bottom of the triangle (the triangle is predictive).
- TRIR and audit information are reliable indicators of SIF Exposure Potential.
- When SIFs occur, they are one-offs.
- Accident investigations (are transactional) and good enough.

A New Paradigm

A new way of thinking about
the Safety Pyramid:
Focus on prevention of SIFs.



SIF Precursor



SIF Precursor = a high-risk situation *in which* management controls are either absent, ineffective, or not complied with *and which* will result in a serious or fatal injury if allowed to continue.

Headline 1

Don't Expect SIF Prevention
by Working Outside
of the SIF Triangle

Headline 2

Recordable Injuries Log is
Misleading When it Comes to
SIF Exposure

Recordable Injury Log is Misleading

Fractured Foot

Case A (SIF Exposure = No) – Employee suffered a fractured foot when they climbed out of a truck cab, missed the bottom rung of the ladder, and fell 30 inches to the ground. Their foot rolled off a small rock, resulting in a fracture.

Case B (SIF Exposure = Yes) – Employee suffered a fractured foot when backed over by a forklift truck (PIT). The PIT operator backed up without looking, and the backup alarm was not functioning. This easily could have been a serious (life-threatening or life-altering) injury, or fatality if the employee's full body had been struck and run over.

Headline 3

The SIF Blind Spot
is Significant

Headline 4

Accident Reporting & Investigations Are Not As Good As You Think They Are

Longitudinal analysis will prove it,
and will point out leadership
and culture implications.

Accident Investigation Processes Must Become Transformational

- Longitudinal analysis
- Multiple contributing factors, root causes, and SIF Precursors
- Effectiveness of corrective and preventive actions
- Tracking of recommendations and verification of problem-solved
- Effective communication and implementation of lessons learned
- The perspective of the affected workers
- Proportionate response
- Case narrative descriptions must help us understand what really happened and the context surrounding the exposure.

Encourages and supports reporting!

Proportionate Response

Patterns

Report –
Affected Groups

Root Cause
Investigation

Develop Action Plan
to Address – Trend

Share Action Plan – Those
That Need to Know

SIF Exposure

Report – High Level /
Across Organization

Deeper Investigation

Share Action Plan –
High Level / Across
Organization

Non-SIF Exposure

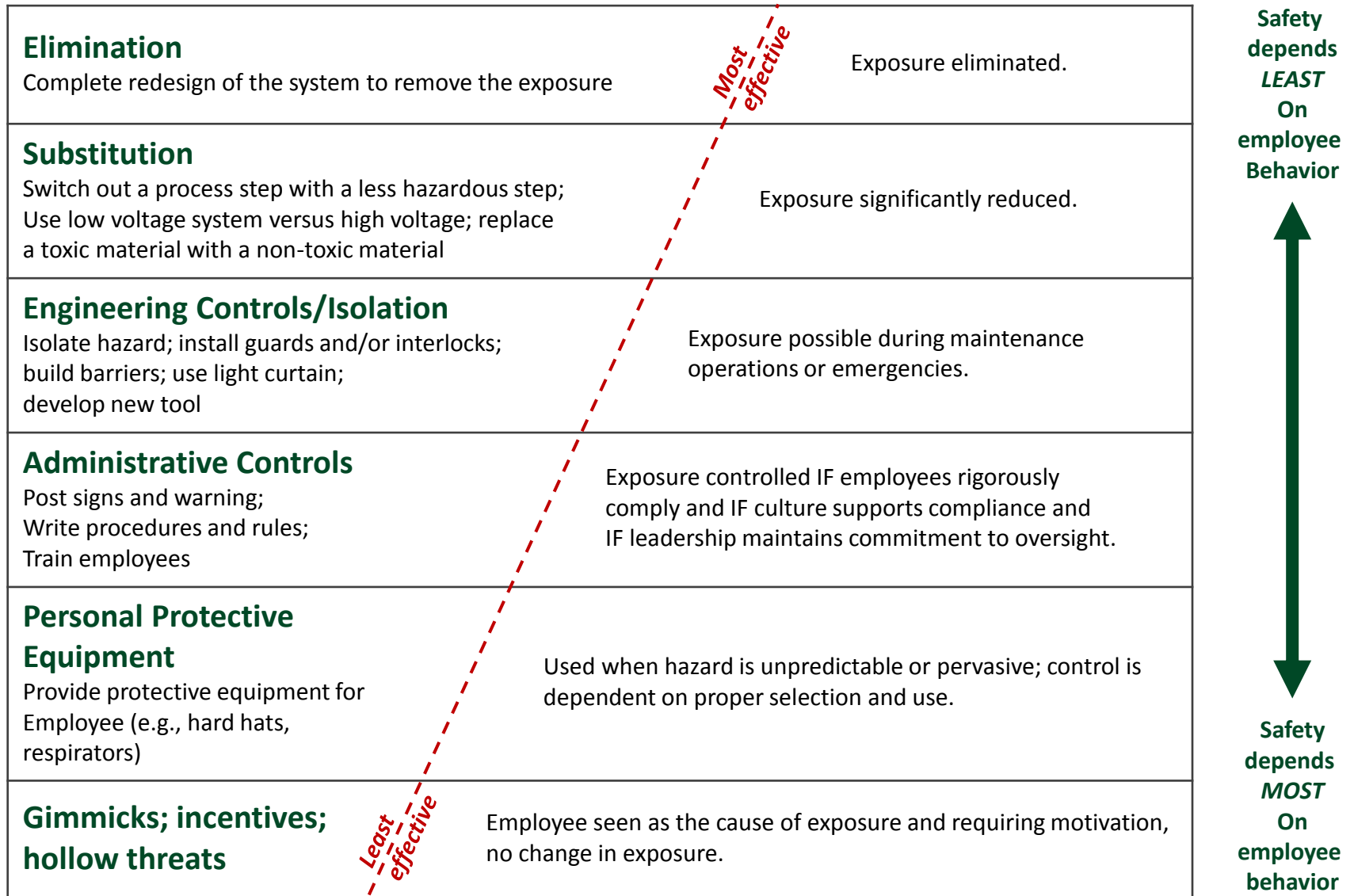
Report – Locally

Short Form –
Investigation

Headline 5

Solutions Are Typically
Centered in the Lower Rungs
of the Hierarchy of Controls

The Hierarchy of Controls



Headline 6

SIF Events Are Not One-Offs.
The Precursors Have Been There
All Along.

Our vocabulary and reaction
to SIF must change.



WHERE DO YOU START?

Educate senior leaders
on SIF exposure.

Provide visibility to
SIF exposure.

Identify SIF precursors.

Three Things You Must First Do

1. Educate Senior Leaders on SIF:

- They need to understand this problem before they can act on it.
- The solutions to the SIF problem require their regular attention.
- Enlist their sponsorship.

2. Provide Visibility to SIF Exposure:

- Define “SI”F: Life-Threatening vs. Life-Altering.
- Determine SIF Exposure Potential: Judgment-based versus Decision-tree.
- Calculate SIF Exposure Rate: SIF Recordable and SIF Total.

Three Things You Must First Do (continued)

3. Know Your SIF Precursors:

- Three places where they hide:
 - High Risk/High Exposure Tasks (81% Routine)
 - Management Systems Missing, Deficient, or Not Complied With
 - Allowed to Continue

Nine Interventions That Really Matter

Life Saving
Safety Rules

**Normalization of
Deviation Controls**

Management Field
Verifications

Pre-Task
Risk Assessments

Pause Work &
Near Miss Reporting

Incident
Handling Systems

Incident
Data and Analytics

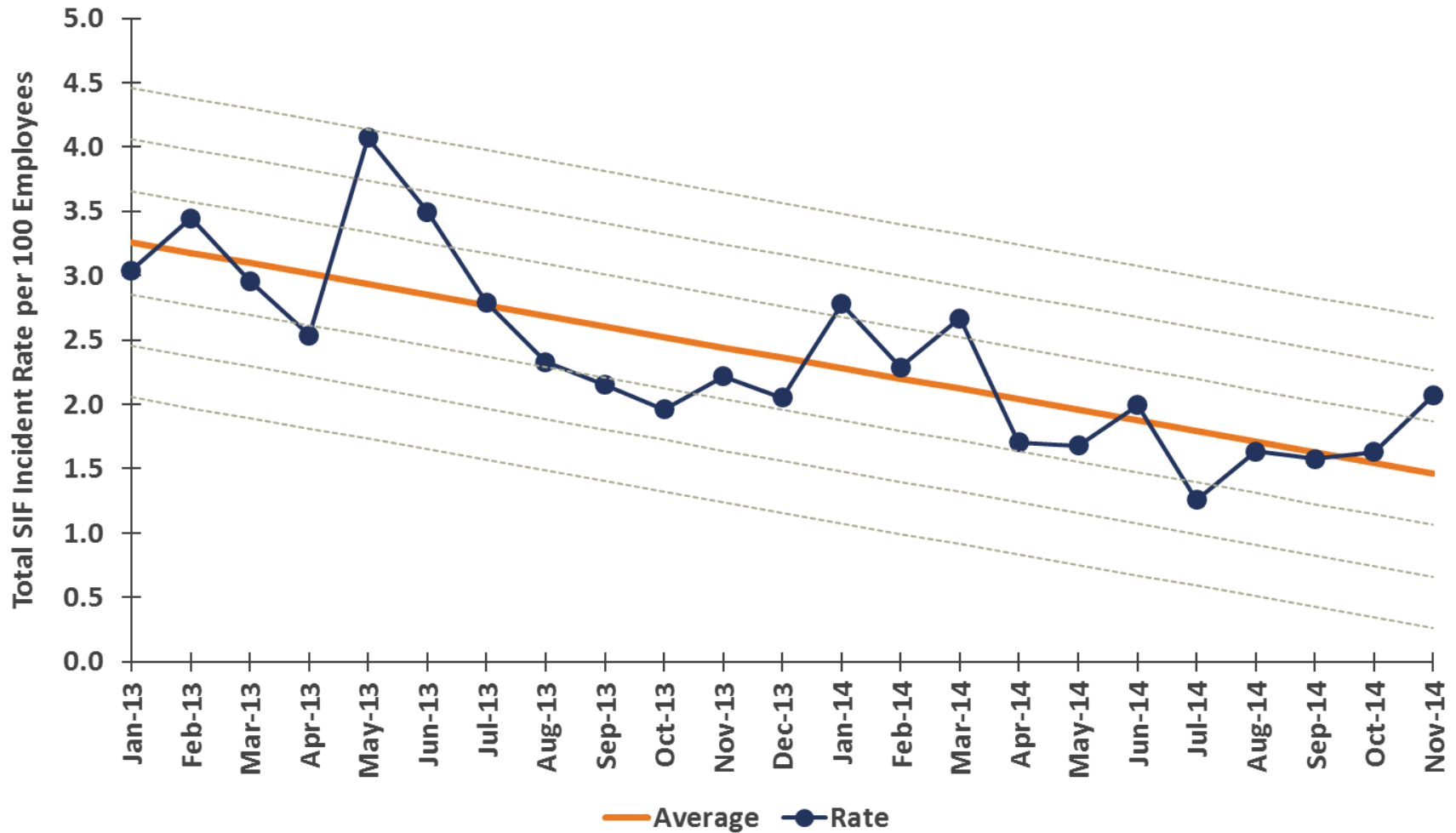
Contractors
Selection
Oversight
Retention

Over Road MV

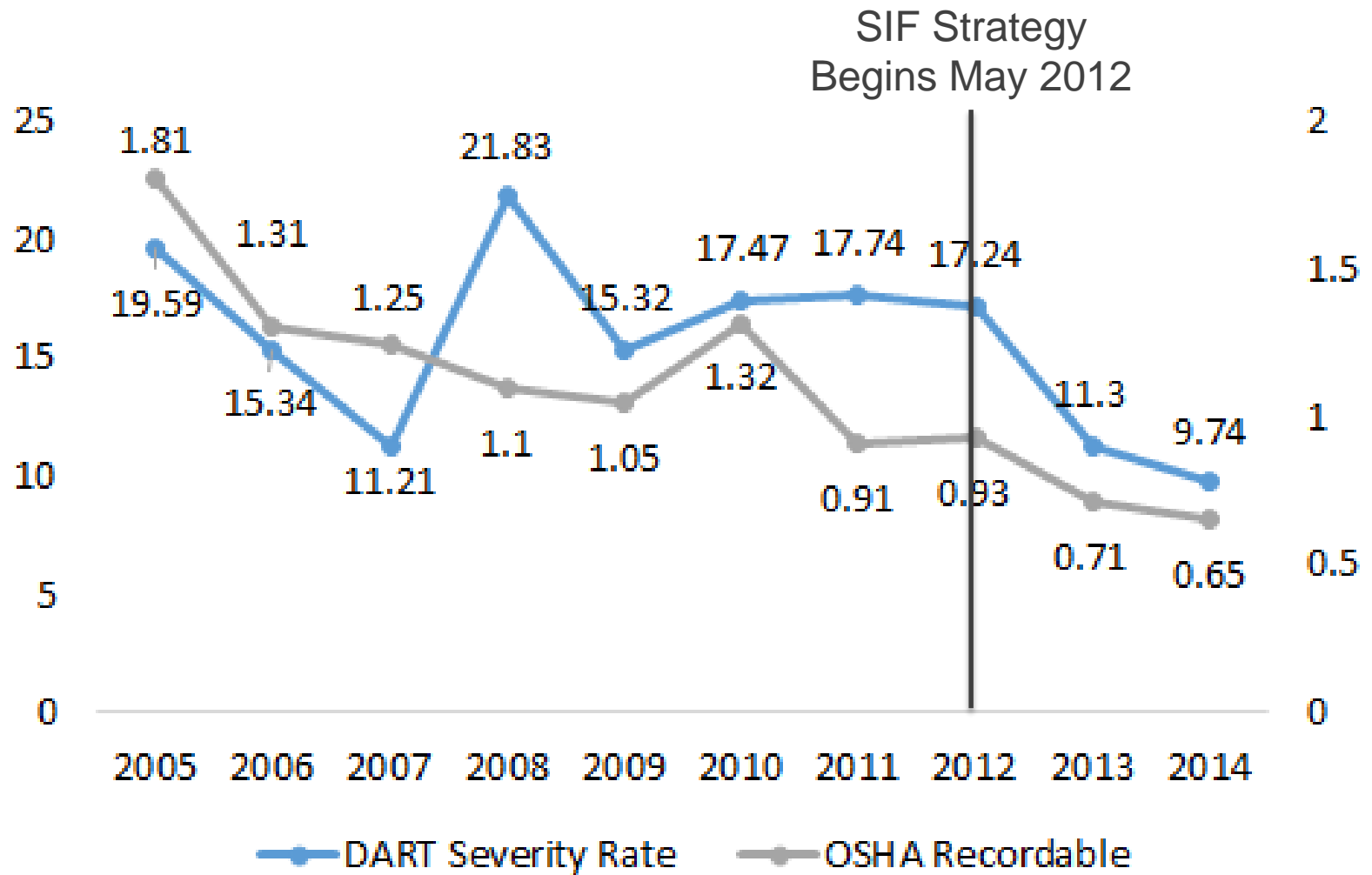
Understanding
& Influencing
Human Behavior

Client A – Total SIF Incident Rate Is Declining

Total SIF Incidents
(Injury/Illness, Vehicle, Property Damage, Near-Miss)
Control Chart



OSHA & DART Rates over Time



Final Thoughts

As senior executives and safety professionals we can't "not know" about our SIF potential.

SIF exposure recognition and mitigation is a core operational responsibility.

The closer you get to an SIF exposure, the more likely you are to take action on it.



Thank You

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Normalization of Deviation – how it starts

No knowledge of
procedure/field improvisation

+

Following procedure is
optional/workarounds

+

Inconsistent application
and interpretation

Ease of granting variances

+

Ineffective exception
management

But wait... there's hope!!!

Work on the right problem

INSTEAD OF . . .

Human performance

Human error

Mistake elimination

WORK ON. . .

Focus on safety critical tasks

Mitigating severe consequences
of human error

Performance reliability