



Best Practices in Safety Management Strategies to Promote a Culture of Safety, Boost Productivity and Prevent Loss

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Saturday, March 19, 2022



Agenda

1	Complacency, Compliance, and Culture
2	Selling the ROI to get the top level buy in
3	Engaging your current workforce
4	Measure your safety performance
5	Workforce who may be risk tolerant

Complacency Compliance Culture

Complacency vs Compliance vs Culture



Which do you have?

Complacency

- No processes for employee safety
- No development of programs
- No training of employees
- No one is held accountable
- “We didn’t know any better”
- No records to show performance
- Unconsciously Incompetent

Compliance

- Follows regulatory rules
- Has developed programs
- Does minimum training
- Safety initiatives are forced
- Front line employees are held accountable by managers
- Managers make the decisions
- Uses lagging indicators to measure safety performance
- Consciously Incompetent/Competent

Culture

- Goes beyond the regulatory rules
- Created dynamic programs which are monitored and changed as new risks are identified
- Has site specific training courses
- All employees are held accountable by each other
- All voices are heard
- Uses leading indicators to measure performance
- Uses methodology such as PDCA, risk tree analysis, FMEA when intro new processes
- Unconsciously Competent

CCC – Factors Affecting the Workforce

Internal Factors

- Organizational Culture
- Leaders
- Business
- Processes
- Workforce
 - Age
 - Education
 - Literacy

External Factors

- Geographic Culture
- History
- Government
- Economics
- Stakeholders
 - Public at Large
 - Customers, Communities
 - Investors

When you want to make a change, you need to understand your audience

CCC - Factors Affecting the Workforce

These are going to be your obstacles

- Company growing too quickly
- Inadequate training/skills/experience
- Lack of communication
- Time – too busy
- Ego or rogue employees
- Management involvement/buy in – what they see is what you'll get...
- Organization operates within a silo environment
- Responsibility but no authority
- Lack of interest – it's not “cool”, doesn't apply to me
- Director of Safety is seen as “Management”/Dir. Of Safety is seen as “Non-Management”
- Director of Safety doesn't report to the “Top”
- Lack of budget – after all, safety is #1!

Selling the ROI



*“The key to get management to
“buy in” for safety involves finding
a common purpose.”*

- J.A. Rodriguez Jr., CSP Chief Strategy Officer for the BCSP

Selling the ROI

Example

The Bantha Blue Milk Company has a powered industrial truck onsite (Forklift)

The facility does not have any type of powered industrial truck program or policies communicated to the employees

- One day an engine core needs to be delivered to a service bay for installation. A parts employee hops on the forklift and proceeds to deliver the core. As the employee begins to enter the service department at 20mph, the forklift driver must suddenly brake and swerve due to a car being backed out of a service bay. The brakes have not been functioning properly and forklift slides a bit.
- The forklift begins to tip over and the employee attempts to jump from the forklift. The employee's leg is pinned between the ground and the cage that surrounds the driver's seat. The employee is taken to the hospital and unfortunately the employee's leg needed to be amputated.
- The engine core slides off the forks and knocks into two 55-gallon oil drums which were near the overhead door. This caused the drums to tip over and rupture. The leaking oil spilled into a water collection drain in the parking lot.

*This scenario is not based on a real event and any noticed similarities is purely coincidental

Selling the ROI

Potential OSHA Citation

Citation 1 Item 1 Type of Violation: Serious	1910.178(l)(1)(ii) Prior to permitting an employee to operate a powered industrial truck (except for training purposes), the employer shall ensure that each operator has successfully completed the training required by this paragraph (l), except as permitted by paragraph (l)(5).	\$5,500
Citation 1 Item 2 Type of Violation: Serious	1910.178(q)(5) All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.	\$4,400
Citation 2 Item 1 Type of Violation: Willful	1910.178(p)(1) If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.	\$60,500
Citation 2 Item 2 Type of Violation: Willful	1910.178(q)(7) Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.	\$60,500
Total Proposed Penalties		130,900

Selling the ROI

Estimate of Losses based on OSHA “Safety Pays” Calculator

Injury Type	Instances	Direct Cost	Indirect Cost	Total Cost
Amputation	1	\$96,003	\$105,603	\$201,606
Concussion	1	\$54,571	\$60,028	\$114,599
Fracture	1	\$54,856	\$60,341	\$115,197

These estimates include the following kinds of indirect costs:

- Any wages paid to injured workers for absences not covered by workers’ compensation
- The wage costs related to time lost through work stoppage associated with the worker injury
- The overtime costs necessitated by the injury
- Administrative time spent by supervisors, safety personnel, and clerical workers after an injury
- Training costs for a replacement worker
- Lost productivity related to work rescheduling, new employee learning curves, and accommodation of injured employees
- Clean-up, repair, and replacement costs of damaged material, machinery, and property

Some of the possible kinds of indirect costs not included in these estimates are:

- The costs of OSHA fines and any associated legal action
- Third-party liability and legal costs
- Worker pain and suffering
- Loss of good will from bad publicity

Selling the ROI

EPA Potential Penalties

- “Facility, has agreed to pay a penalty of **\$17,500** to settle EPA claims regarding a January 2014 oil spill, and inadequacies in xxxx’s oil spill prevention plan.”
- “The Jan. 2014 oil spill originated from tanks stored at the xxxx, when a small quantity of oil was released to an unnamed stream that leads to the xxxx River. Additionally, in a subsequent March 2014 inspection, EPA alleged that the company's Spill Prevention, Control and Countermeasure (SPCC) plan, as required by the Clean Water Act, was not adequate.”
- This citation doesn’t include the legal fees, cleanup costs, and costs to upgrade the equipment and the SPCC plans needed for the spill. Estimate: **\$15,000**



Selling the ROI

Potential Legal Costs

- “Here's a quick look at some real-world personal injury settlements and civil court verdicts in cases involving ankle injuries:....
 - \$350,000 settlement for plaintiff after forklift tipped over and caused severe ankle fracture.”
- ...but the employee was negligent?!?
 - OSHA will build the majority of the case for the attorney
 - No training
 - No inspections
 - No maintenance

Selling the ROI

Total Loss from Example Incident

Total Direct Loss Estimate	\$205,430
Total Indirect Loss Estimate	\$105,603 (highest amount estimated)
Legal Settlement	\$350,000
EPA Citations/Costs	\$ 32,500
OSHA Citations	\$130,900
TOTAL	\$824,433

But it doesn't end there.

Selling the ROI

Experience Modification Rating

- A calculation used by insurance carriers to determine the premium amount a business will pay for their worker's comp policy
 - “costs of a company's actual workers' compensation claims compared to the expected costs for companies of similar size in the same industry.”
- Retroactive over the past three years prior to the term year
- “1” is the magic number
 - EMR job classification industry average
- Example
 - EMR = 1.4 then its possible to pay 40% more
 - EMR = 0.89 then its possible to pay 11% less
- Typically, more incidences carries more weight

Selling the ROI

Incidence Rate: Where do we stand compared to others?

- The incidence rates represent the number of injuries and illnesses per 100 full-time workers and are calculated as: $(N/EH) \times 200,000$, where:
 - N = number of injuries and illnesses
 - EH = total hours worked by all employees during the calendar year
 - 200,000 = base for 100 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

- Example Incidence Rate
 - N = 4 (You can find “N” from your 2020 OSHA 300A)
 - EH = 160,000 (80 employees x 40 hours x 50 weeks)
 - $4/160,000 \times 200,000 = 5.0$

OSHA's Form 300A (Rev. 01/09/04)

Summary of Work-Related Injuries and Illnesses

Year 20_____

U.S. Department of Labor
Occupational Safety and Health Administration

File # _____

OSHA 300A (Rev. 01/09/04)

All incidents covered by this OSHA 300A must comply with the Summary page, even if no work-related injuries or illnesses occurred during the year. Permission to enter the Log is valid for the entire calendar year and extends to all company sites. (For more information, see the OSHA 300A instructions.)

Using the Log, record the individual entries you track in each category. The entries on each OSHA 300A must include the worker from every page of the Log. If you fail to report, write "0".

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in writing. They also have the right to access the OSHA Form 300 or its equivalent. See 29 CFR Part 1904.16, in OSHA's recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
(a) _____	(b) _____	(c) _____	(d) _____

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
(e) _____	(f) _____

Injury and Illness Types

Total number of... (g) _____	(h) Poisonings _____
1) Injuries _____	(i) Hearing loss _____
2) Skin disorders _____	(j) All other illnesses _____
3) Respiratory conditions _____	

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering the data, reviewing the collection of information, reviewing the instructions, collecting the data, reviewing the information, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Washington, DC 20503, and to the Office of Management and Budget, Paperwork Project (0704-0188). Do not send comments to OSHA.

Establishment Information

Your establishment name _____

Street _____ State _____ ZIP _____

City _____

Including the digits (e.g., 44) (Number of water main miles) _____

Postal (Business Classification (BNC)) (where applicable) _____

OSHA _____

Trade Association (Name) (NAICS), if known (e.g., 30000) _____

Employment Information (If you do not have this information, write "None" on the last page of entries.)

Total average number of employees _____

Total hours worked by all employees last year _____

Sign here

I certify that I have examined this document and, to the best of my knowledge, the entries are true, accurate, and complete.

Supervisor _____

Date _____

Selling the ROI

Average Incidence Rates

Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, 2019

Industry(2)	NAICS code(3)	Total recordable cases	Cases with days away from work, job restriction, or transfer			Other recordable cases
			Total	Cases with days away from work(4)	Cases with days of job transfer or restriction	
Manufacturing	31-33	3.1	2	1.1	0.9	1.1
Food manufacturing	311	5.1	3.9	2.5	1.5	1.2
Beverage manufacturing	3121	3.5	2.5	1.2	1.3	1
Breweries	31212	2.1	1.2	0.6	0.6	1
Wineries	31213	3	2	1.1	0.9	1
Distilleries	31214	1.3	0.8	0.3	0.4	0.5
Textile mills	313	3.1	2.1	1.1	0.9	1
Footwear manufacturing	3162	3.4	2.4	1.3	1	1.1
Wood product manufacturing	321	4.7	2.9	1.7	1.2	1.8
Sawmills and wood preservation	3211	4.8	3	1.7	1.3	1.8
Sawmills	321113	5.1	3.1	1.8	1.4	1.9
Truss manufacturing	321214	4.3	2.7	1.7	1	1.6

Industry(2)	NAICS code(3)	Total recordable cases	Cases with days away from work, job restriction, or transfer			Other recordable cases
			Total	Cases with days away from work(4)	Cases with days of job transfer or restriction	
Other wood product manufacturing	3219	5.1	3.1	1.8	1.3	2
Millwork	32191	4.6	2.8	1.7	1.1	1.8
Wood window and door manufacturing	321911	3.9	2.3	1.3	1	1.6
Manufactured home (mobile home) manufacturing	321991	8.1	4.3	2.2	2.1	3.8
All other miscellaneous wood product manufacturing	321999	3.5	1.7	1.2	0.4	1.8
Paper manufacturing	322	2.4	1.6	0.9	0.7	0.8
Paperboard mills	32213	2.3	1.6	1.1	0.5	0.7
Stationery product manufacturing	32223	3.6	1.8	1.1	0.7	1.8
Printing	32311	2	1.3	0.8	0.5	0.7
Petroleum and coal products manufacturing	324	1.2	0.7	0.4	0.3	0.5

Engaging your Workforce



How to Engage...

Lead by Example/Empower the People

Seek out your team	<ul style="list-style-type: none">• Safety Committee
Don't throw your safety culture idea in someone else's lap	<ul style="list-style-type: none">• Volunteers are better than Voluntolds• Issue your team the time and make considerations for missed productivity
Recognize your current status	<ul style="list-style-type: none">• Complacent, Compliance, Culture
Create a Risk Assessment	<ul style="list-style-type: none">• Based on your risks, what do you need?
Analyze inside and outside resources	<ul style="list-style-type: none">• "We have a technician who was a past forklift operator for a shipping firm"• "Our shop foreman is willing to share stories about how she has seen hand tools slip before and can do a shop talk"• "We have a former fire fighter that is now a parts delivery man"• "The local red cross hosts CPR and basic first aid training"• "We had a consultant at a past facility that I worked with who did safety training"

How To Engage...

Example Risk Assessment

Ref / ID	Risk-Mitigation				Department / Location	Mitigations / Warnings / Remedies	Post-Mitigation			
	Risk	Risk Severity	Risk Likelihood	Risk Level			Risk Severity	Risk Likelihood	Risk Level	Acceptable to Proceed?
		<ul style="list-style-type: none"> • Acceptable • Tolerable • Undesirable • Intolerable 	<ul style="list-style-type: none"> • Improbable • Possible • Probable 	<ul style="list-style-type: none"> • Low • Medium • High • Extreme 			<ul style="list-style-type: none"> • Acceptable • Tolerable • Undesirable • Intolerable 	<ul style="list-style-type: none"> • Improbable • Possible • Probable 	<ul style="list-style-type: none"> • Low • Medium • High • Extreme 	Yes / No
1	Slip and fall	Tolerable	Probable	Medium	Service	Increase daily floor inspections to 3x per day	Tolerable	Possible	Medium	
2	Car falls off lift	Intolerable	Possible	High	Service	Institute mandatory automotive lift training and contract lift inspection service	Intolerable	Improbable	Medium	
3	Forklift incident	Intolerable	Probable	Extreme	Parts/Service	Install a forklift safety program	Intolerable	Improbable	Medium	
4	Hand tool error	Acceptable	Possible	Low	Parts/Service	Shop safety talk	Acceptable	Possible	Low	

How to Engage...

Responsibility to Participate (Each of these can be a measurable leading indicator)

- Asked for feedback on good safety goals ahead of safety meetings
- Number of workers involved in developing safety procedures
- Participating in tool-box talks
- Participating in injury investigations
- Safety perception survey participation rate
- Developing task-specific job safety analyses/job hazard analyses on how to perform routine tasks safely
- Participating in accident investigation teams and helping to identify/implement corrective actions to eliminate hazards

Slide 21

ZP4 Poll Question: Does your current company have a safety committee of 4 or more employees from different departments and shifts in place?

Zach Pucillo, 2/18/2021

ZP5 A) Yes

B) No

Zach Pucillo, 2/18/2021

How to Engage...

Incentive Programs

- Incentive Programs – Based on Leading Indicators
 - See Something.....Say Something
 - Reward for JSA creation
 - Safe Accomplishment Trinkets
 - Safety glasses anonymous spot checks
 - Task a safety team member to perform a spot check on the service technicians. Those observed wearing the glasses are invited to a future lunch with the company president



KPA

Oxygen-Acetylene Torch Cart

Required PPE

Heat Resistant Gloves Protective Jacket Face Shield w/Shaded Visor

Inspect For Damages Prior To Use

Important Safety Reminders

- Follow all manufacturer's instructions for setup and use
- Always wear the required PPE
- Make sure a fire extinguisher is readily available for immediate use
- Inspect ALL components of the system prior to beginning
- Verify that the pressure relief valve is operable
- Confirm flashback arrestor is installed
- Set the psi on each regulator according to the manufacturer's recommendations
- **Never** face or stand over the gauges when turning on the gas
- Turn the valves on **slowly** using quarter turns
- Use a torch striker to light the torch
- Fully turn off the cylinder valves when finished
- Purge the gas lines when finished
- Inspect the work area prior to leaving

If you have any questions feel free to contact a KPA consultant at [800-486-0400](tel:800-486-0400) or support@kpaonline.com

This supplemental safety guidance sheet is designed as a quick reference to be used in conjunction with the manufacturer's setup instructions, operation manuals, and other guidance documents. If this document contradicts the manufacturer's guidance in any way, the manufacturer's guidance should be followed. Proper training prior to equipment use using manufacturer's guidance is mandatory.

Measure your Safety Performance

Measure your Safety Performance

Leading Indicators vs Lagging Indicators

Lagging Indicators

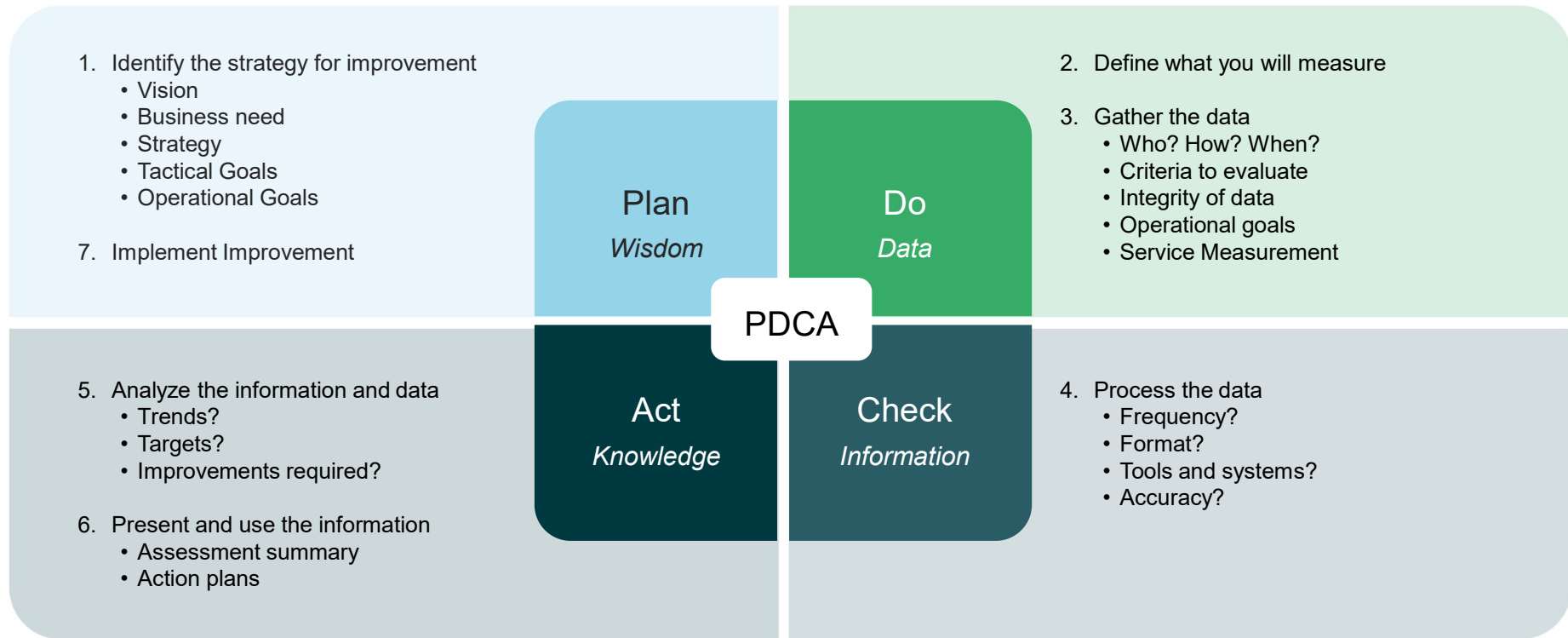
- Recordable Injuries
- Citations
- Case Rates (Incidence and DART)
- Worker's Comp Claims
- EMR

Leading Indicators

- Risk Assessments
- Hazard Assessments
- Supervisor Training
- Employee Training
- Safety Committee Meeting Attendance
- Walk Through Audits
- Employee suggestions

Measure your Safety Performance

Plan Do Check Act



Measure Your Safety Performance

Leading Indicator – Employee Training

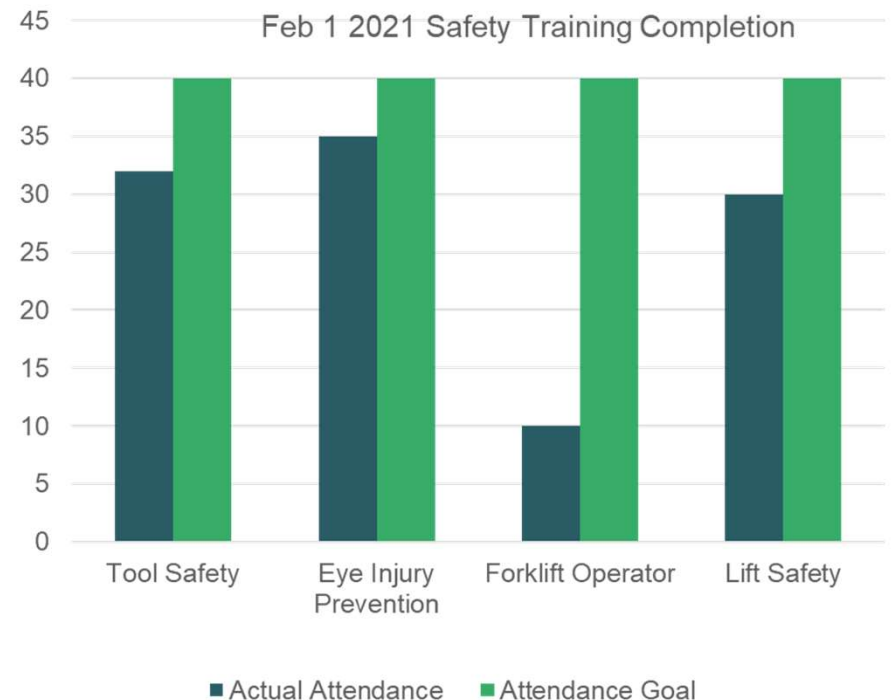
- Set a SMART goal for indicator
 - Specific
 - Measurable
 - Accountable
 - Reasonable
 - Timely
- We will achieve 100% safety training completion in four safety courses by March 1st of 2021



Measure Your Safety Performance

Analyze Progress and Shift Resources

- “Why is Forklift Operator not progressing?”
 - Requires driver’s practice and test
 - The forklift is not available for practice
 - Department manager’s are unaware of test administration
- Solutions
 - Setup timeframes and obstacles area for forklift practice
 - Review forklift testing requirements with supervisor team

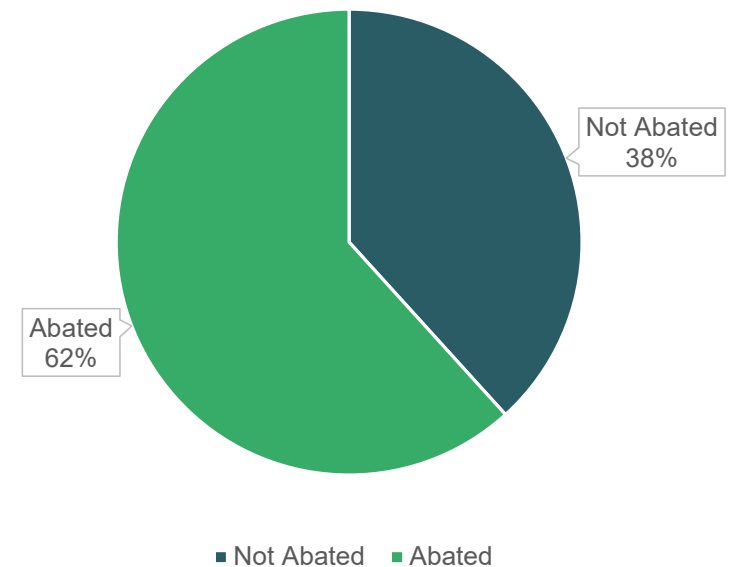


Measure Your Safety Performance

Leading Indicator Example

- Improve the percentage of hazards abated in the same week they were identified to 85% by March 1st, 2021
 - “Why are we not improving to the 85% goal?”
 - Tasks are assigned to the maintenance team only who have been busy with snow clearing
 - Approval for spending on hazard correction is a multi-step process due to purchase orders
 - Solutions
 - Appoint a hazard correction team which includes employees from all departments
 - Establish a credit card for safety spending with a set limit

Hazards Abated During Same Week Identified Feb 1st – 5th



Measure Your Safety Performance

Management Support Leading Indicator Examples

- Percentage of supervisors who attend mandatory safety and health training for workers
- Number of times each month that top management initiates discussion of a safety and health topic
- Average score on survey questions related to workers' perception of management's safety and health commitment
- Number of worker-reported hazards or concerns for which employers initiated corrective action within 48 hours (compared to the total number of such reports)
- Average time between worker report of a hazard or concern and management acknowledgement of the report
- Number of safety-related line items in budget and percentage of these fully funded each year

Measure Your Safety Performance



More examples of leading indicators

- Frequency with which preventive equipment maintenance tasks are initiated and completed on schedule
- Number of hours passed after an incident before an investigation is started
- Number of hours passed after an incident before an investigation is completed
- Percentage of incident investigations that include a root cause investigation
- Percentage of daily/weekly/monthly inspections completed
- Percentage of inspections that include a follow-up inspection to ensure that the hazard has been controlled
- Number of trainings provided to workers on hazard recognition and control as compared to worker attendance rates at these trainings
- Percentage of workers receiving mandatory training on schedule
- Percentage of incident investigations listing insufficient number of workers trained on how to recognize and report a hazard or near miss as compared to the number of workers that report understanding the training they have received
- Percentage of improvement on post-training assessment scores over pre-training assessment score.

How to Cater to a Younger Workforce that Maybe Too Risk Tolerant

Younger Workforce

NIOSH statistics on how the younger workforce has higher incidence rates

In 2018, there were about **19.4 million workers under the age of 24.**

These workers represented **12% of the total workforce.**

In 2018, 360 workers under the age of 24 died from work-related injuries.

In 2018, the incidence rate for non-fatal injuries for workers, ages 16–19, was 110.3 per 10,000 employees and 99.3 per 10,000 employees for workers, ages 20–24.

In 2017, the rate of work-related injuries treated in emergency departments for workers, ages 15–19, was 1.25 times greater than the rate for workers 25 years of age and older.



Young Workforce

Reasons for the Higher Incidence Rate

- Limited or no prior work experience
- Lack of safety training
- Distractions
- Inability to realize consequences
- Fear of asking questions
- Assumptions
- He-man complex
- No career ambition

Young Workforce

Engaging them as responsible workers

Speak to them

Avoid the stereotypes and bias

What are their realistic career goals?

How can you help them?

Make their importance known

Create opportunity

Assign them as leads on tasks

- Run point on lead indicator data assessments

Position openings

- Take a chance

Put them to the test on improving a leading indicator

SDS Recovery Time Challenge





Training, Documentation, Recordkeeping Analysis



Embrace in Technology Advancements

- Mobile Application Use
 - Digital Inspections
 - QR Codes
 - Employee training
 - SDS
 - Training Games
 - Fall Protection Hero
- JSA Builders
- Certificate of Insurance Tracking
- Permit Tracking
- Incident Managers
- LMS
 - If you don't have one, how are you tracking?
- Data Storage
 - Employee communication
 - Accessibility



KPA

Questions?

**Thank you for your
attendance and
attention!**

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Biographical Information

**Zachary W. Pucillo, CHMM, District Supervisor
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Zach Pucillo has been gaining professional experience in the Environmental, Health, and Safety field for the past 16 years. He graduated with a bachelor's degree in health and safety from Indiana University in 2005. Zach started for KPA in 2006 where he began guiding his customers down the path of building and sustaining safety cultures in their day-to-day activities. In 2013, Zach achieved the status of Certified Safety Professional designated by the Board of Certified Safety Professionals and following year he achieved the status of Certified Hazardous Materials Manager which is designated by the Institute of Hazardous Materials Managers.

**Glorianna L. Corman, CSP, Senior Risk Mgmt. Consultant
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Glorianna came to KPA in August 2008 and has achieved designations as a Registered Environmental Manager, Certified Hazardous Materials Manager, and Certified Safety Professional. She graduated from Franklin University with a bachelor's degree in Applied Science in Organizational Communication. Glorianna is actively involved in her local environmental, health, and safety community. She is currently a member of the Ohio EPA Small Business Compliance Advisory Panel and Grove City Environmental Sustainability Committee. She is the current chairman of the Environmental and Small Business Committee with Ohio BWC Safety Congress and the past president of the Central Ohio Certified Hazardous Materials Managers.