



The Pragmatic Development of Actionable Processes to Reach High-Reliability Goals

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High-reliability organizations are obsessed with failure and follow high-reliability principles: Preoccupation with failure, reluctance to simplify, sensitivity to operations, deference to expertise and commitment to resilience. These often appear as abstract. How does one display preoccupation with failure or other principles? How does high-reliability become operationalized?

OPERATIONALIZATION

The incident timeline provides a sequence to incident prevention (Worden & Lombardo, 2016). All preventative measures fall to the left to the incident. All actions to the right of the incident are reactive. Placing activities around each element of the timeline, high-reliability becomes pragmatic. (Figure 1)

HAZARD ANALYSIS AND CONTROL

Hazard analyses must be completed by brainstorming possible incidents and identifying historical failures. The organization will then have created a preoccupation with failure. Additionally, by engaging with subject matter experts, deference to expertise is also now

exemplified. Hazard controls must now be implemented for each hazard to prevent incidents using the most effective hazard control from elimination to substitution, engineering, administration and Personal Protective Equipment (PPE). For any hazard control, training must be provided to ensure all affected employees know how to use the control, where it is located and how to maintain it.



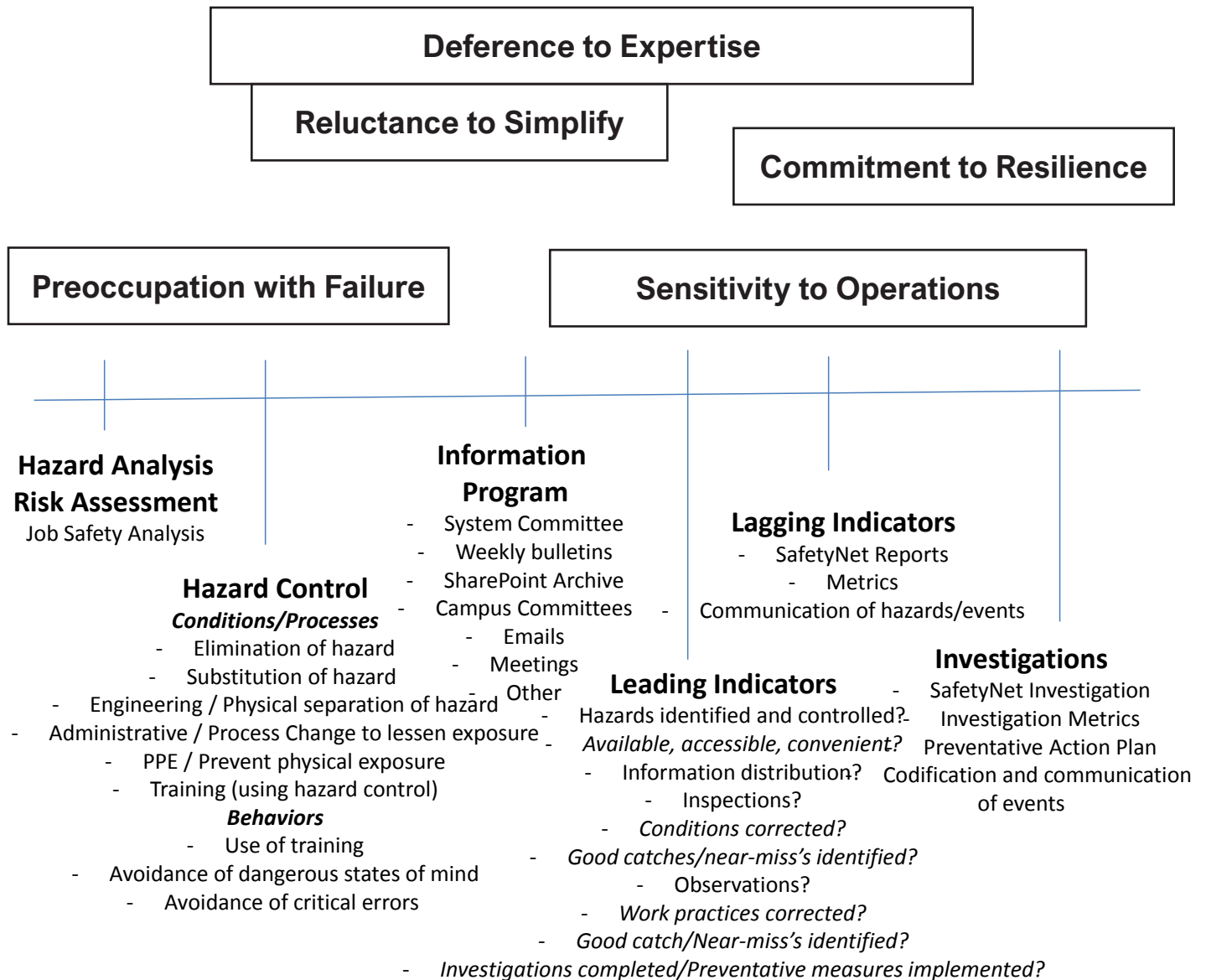


Figure 1 – The incident timeline with the high-reliability principles applied to each pragmatic, actionable process in high-reliability safety.

COMMUNICATION

At this point, an information program – bulletin boards, safety huddles, emails, meetings, trainings and more – provides reinforcement of expectations. The organization has engaged in reluctance to simplify by not assuming employees will simply remember to work safely.

LEADING AND LAGGING INDICATORS

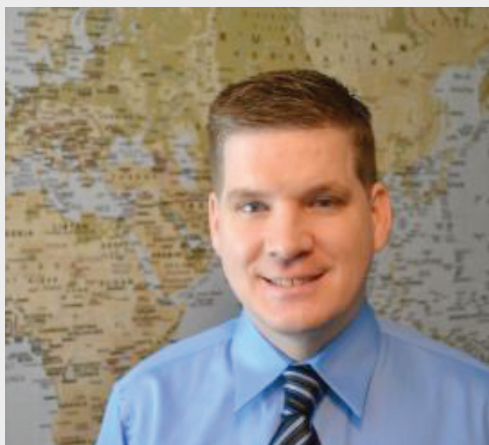
Leading indicators are developed to validate whether safety processes are operationally used and whether they are as safe as necessary. For example, if the determined hazard control for a table saw is to use the machine guard over the blade, a leading indicator could be an observation to monitor whether or not the guard is being used and if guard is providing the proper safety.

On the contrary, lagging indicators are measurements of how many incidents occurred and how bad the consequences were – physically, financially and otherwise – when the safety practices were not followed. For example, should the machine guard not be used, lagging indicators such the number of incidents, injuries, costs of treatment and more also lead to investigation findings such as lacks of training, lacks of equipment, human errors or other. The critical difference between leading and lagging indicators is that a leading indicator provides critical data that can be used to prevent injuries while lagging indicators can be used to prevent future injuries but only based on data derived from incidents having already occurred. Both allow for deference to expertise and sensitivity to operations in that these indicators should be developed during normal operations so as to not disrupt or render operations inefficient.

Ultimately, high-reliability organizations must implement high-reliability principles as a pragmatic part of their operations. The employee must have as much influence on safety as the manager, especially as a subject matter expert. When realized, high-reliability operations can create an outstanding safety culture.

References

- Christianson, M.K., Sutcliffe, K.M., Miller, M.A. & Iwashyna, T.J. (2011). Becoming a high reliability organization. *Critical Care*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3388695/>
- Riley, J. & Van Horne, P.V. (2014). *Left of bang*. New York, NY: Black Irish Entertainment.
- Risk assessments: The catch-all for hazard analysis. (2011). *Briefings on Hospital Safety*, 19(3), 1-5.
- Worden, C. & Lombardo, K. (2016). Situational awareness: The often-ignored hazard control. *AOHP Journal*, 36(3), 8-13.



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