



eBook

Serious Injury and Fatality (SIF) Prevention: Improving Your Strategy

Practical Tips for Applying New SIF Prevention Theories

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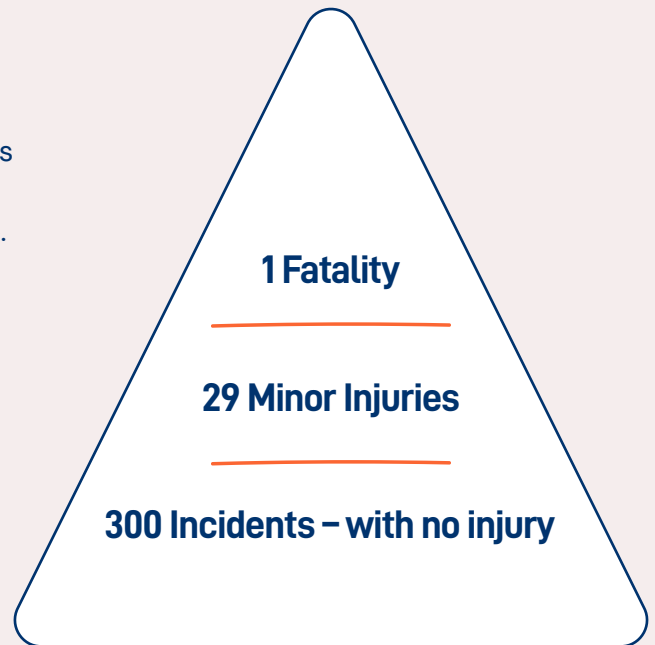


Heinrich's Safety Pyramid

Herbert William Heinrich hypothesized that if the number of minor incidents – like small bruises, scrapes and strains – went down, the number of serious injuries and fatalities (SIFs) would fall at the same rate.

Heinrich believed that for every **300 incidents that resulted in no injury or illness**, 29 would result in minor injuries and 1 would result in a fatality.

So, for the last near-century, health and safety professionals depended on reducing incidents to prevent SIFs. But while Heinrich's philosophy was sound, his theory isn't accurate.



Why Doesn't Heinrich's Pyramid Work?

If the rate of near miss events was directly proportional to the rate of fatalities (300:1, in the example Heinrich gives), near miss events, minor injuries and SIFs would decrease at the same rate.

But they haven't. In the last two decades, the rate of nonfatal recordable injuries has decreased dramatically while the rate of fatalities and serious injuries has declined at a much slower rate.

Why is this the case?

As Sean Baldry writes in EHS Today, **"what hurts people isn't the same as what kills people."** In other words, not all minor incidents have the potential to cause a serious injury or fatality.

Heinrich's theory posits that all near misses have an equal chance of becoming fatalities, but in reality, only a small subset of minor incidents have the potential to cause SIFs.

The future of SIF prevention

In this eBook, we'll explore the reasons for the **downfall of the traditional approach to SIF prevention.**

We'll discuss the industry's updated framework and the benefits of a thorough strategy. Finally, we'll share **valuable insights** organizations can use to improve their strategies.



What Is a SIF?

Before we get into the technicalities of preventing SIFs, let's define a few terms.

→ Serious Injury – Fatality (SIF)

A serious injury and fatality (SIF) is an incident or near miss that results in or has the potential to produce a fatal or serious injury or illness.

SIFs are difficult to discuss. They can have devastating effects on individuals, families, coworkers, organizations and communities. But that's why it's important that we spread awareness of the theories, tools and strategies organizations can use to reframe and prevent them.



According to DEKRA, in the testing, inspection and certification (TIC) industry, a serious injury is

“a permanent impairment or life-altering state, or an injury that if not immediately addressed will lead to death or permanent or long-term impairment.”

SIF Potential: The New Framework

As a result of the data from the last two decades, which showed SIFs decreasing at a slower rate than minor incidents, health and safety professionals have adopted a new framework for thinking about SIF prevention.

Instead of focusing on reducing incidents in general, EHS professionals urge organizations to target events that have the potential to become SIFs.



As EHS Today reports, “organizations need to narrow their focus to identify the precursors within events that increase SIF potential, and then **analyze and reconstruct these scenarios** to understand what enabled those precursors to persist.”



How Should We Define SIF Potential?

An incident can be said to have a SIF potential when it could have reasonably resulted in a serious injury or fatality had any of the circumstances or safety measures changed.

Let's say a construction employee is working at height on scaffolding.

They've taken the necessary protective measures, like wearing non-slip footwear, fall arrest equipment and a hard hat.

But if one of the circumstances changed—maybe the worker hadn't correctly attached their fall arrest equipment—and they happened to slip, the resulting incident could **reasonably and realistically** result in a serious injury or fatality.

Regardless of the circumstances, factors or preventative measures, the situation has SIF potential.

DEKRA suggests thinking about it in another way. When you roll a set of dice, there's a small chance you'll roll two ones—snake eyes.

It's a matter of chance, but if you rolled the dice over and over, you'd roll two ones eventually. When determining whether a task or situation has SIF potential, **ask yourself this question:**

If the situation was repeated dozens or hundreds of times, **is it reasonable to conclude the outcome could eventually become a SIF.**

If the answer is yes, the situation has SIF potential.



How Do We Identify SIF Potential?

In some cases, as in the working-at-height example, SIF potential is easy to identify. But most cases are trickier.

Tripping over cables in a warehouse, for example, might have SIF potential or it might not.

How big are the cables, and how much of a trip hazard do they pose? Are they live? Are they connected to something that could fall and cause an injury?

What could you fall on? In other words, is the ground clear or is there another hazard present that if you fell, you could hit?

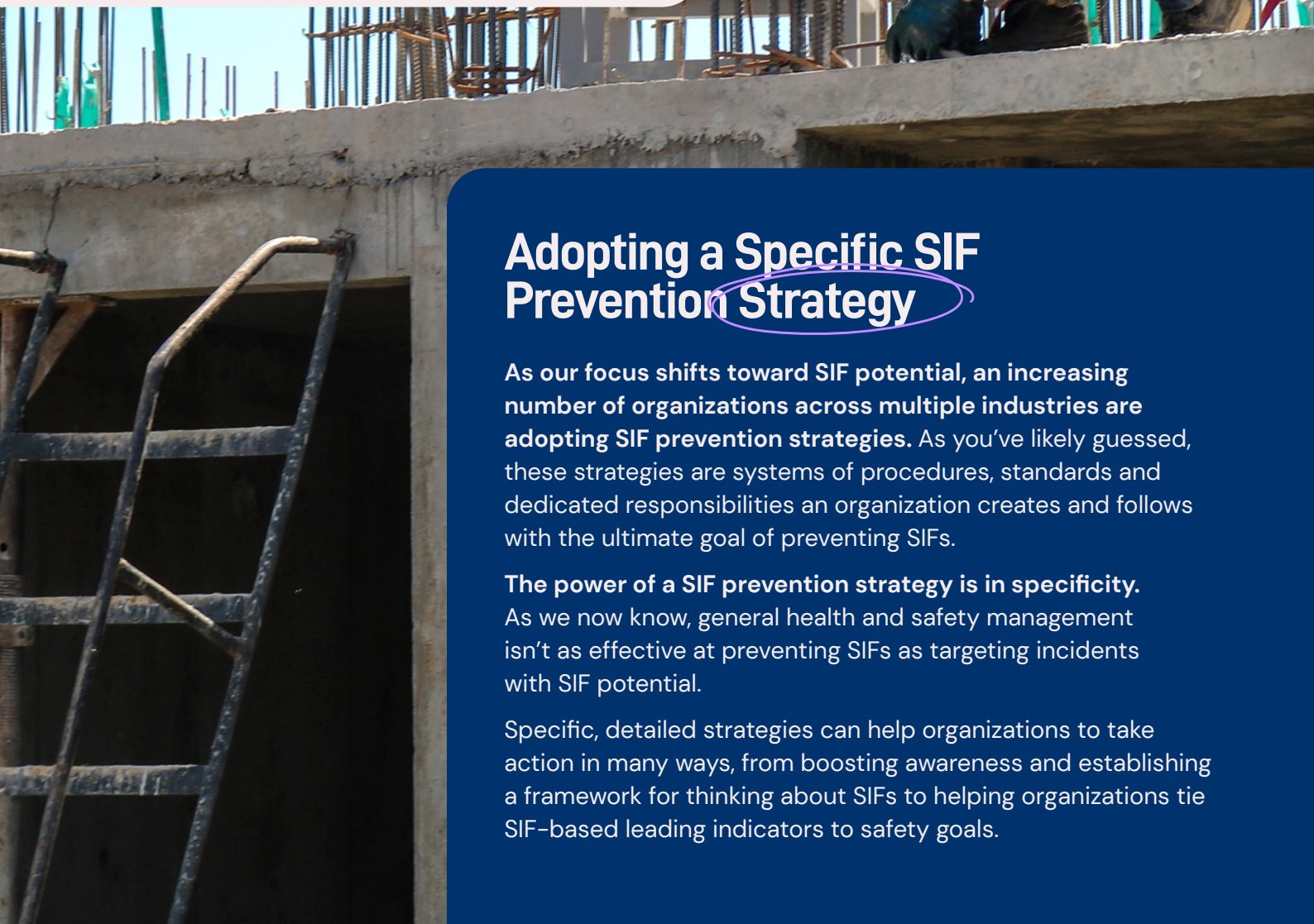
These are questions organizations can answer with the help of a SIF prevention strategy.

Adopting a Specific SIF Prevention Strategy

As our focus shifts toward SIF potential, an increasing number of organizations across multiple industries are adopting SIF prevention strategies. As you've likely guessed, these strategies are systems of procedures, standards and dedicated responsibilities an organization creates and follows with the ultimate goal of preventing SIFs.

The power of a SIF prevention strategy is in specificity. As we now know, general health and safety management isn't as effective at preventing SIFs as targeting incidents with SIF potential.

Specific, detailed strategies can help organizations to take action in many ways, from boosting awareness and establishing a framework for thinking about SIFs to helping organizations tie SIF-based leading indicators to safety goals.





Determine Standards

01

Determine SIF precursors

After an incident is reported, your organization's standards for SIF identification will help you to determine if it has SIF potential.

Depending on factors like industry and location, these standards will look different from one organization to another.

02

Establish SIF exposure mitigation

Determine which critical controls must be in place in situations with SIF potential.

Decide how the organization will ensure that these measures are in place. For example, during pre-briefs, field verification or incident investigations.

03

Determine how your organization will gather and analyze data

Analyzing prior incidents for SIF potential and precursors is important, but it's just as important to look at leading indicators.

As the Campbell Institute recommends: "creating thorough and detailed incident reports, going into the field to collect observational data and talking to people about their experiences on the job.

The better the quality of data entering the system, the better the analysis, and the better agility the organization can have in predicting and preventing the next event."

04

Delegate responsibilities to management, supervisors and workers

Designate certain tasks to certain groups. For example, **management might be responsible for educating employees and contractors on SIF-related procedures** while workers might be responsible for reporting incidents and participating in investigations.

Top Tips on Improving Your SIF Prevention Strategy: Educate, Analyze & Reframe

01

Educate

SIFs can be a difficult topic to discuss at work. As a result, workers may have limited knowledge.

Improving communication between management and workers regarding SIF prevention can have a profound effect on workplace health and safety.

Here are a few ways to keep everyone in your organization educated on SIFs:



Develop a communication plan to keep workers informed about SIF prevention. **Using a software solution to keep workers informed** through regular notifications can be a great way to keep the lines of communication open.



Train workers to recognize SIF precursors. It's important that employees are able to identify events with SIF potential based on your organization's standards.



Get everyone involved by creating proactive and consistent messaging campaigns, SIF awareness initiatives, leadership coaching programs and additional worker training sessions.



02

Analyze

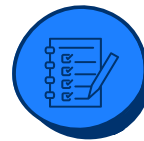
Instead of focusing solely on lagging indicators (i.e. incident/SIF metrics, post-incident investigations), **widen your data pool by using leading indicators like risk assessments, observational insights and cultural factors** to determine SIF potential.

Here are a few ways to **boost your analysis game:**



Encourage open communication through reporting.

In organizations where workers feel comfortable sharing observations and concerns with management, fewer hazards will slip under the radar.



Make job hazard assessments and risk assessments easily accessible.

Increasingly, software solutions offer mobile options that make it easier for employees to access important documents.



Implement a software solution.

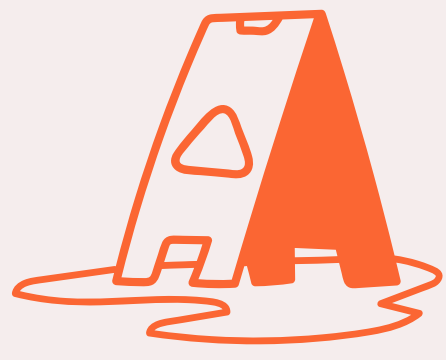
Software can boost reporting, centralize your data and help you to track patterns.

To learn more about choosing the right software solution for your company, check out our blog, [10 Key Steps When Choosing EHS Software.](#)

03

Reframe

Beyond paying greater attention to incidents with the potential to become SIFs, reframing our perception of serious injuries and illnesses can take several forms.



Minor hazards may interact with each other to create SIF potential events, making them difficult to spot.

To fix this issue, the Campbell Institute suggests creating cumulative risk assessments to address the **“combined risks from aggregate exposures to multiple agents or stressors.”**



Take a proactive approach to safe operations. Encourage a mindset of ‘starting when safe’ in addition to the well-established practice of stopping work when unsafe.



Focus on critical controls— the controls and safety measures that must be present in a SIF-potential situation—rather than regular controls.



Learn to transition your thinking from focusing on the hazard to focusing on the task with the hazard.



Focus on systemic errors. It’s important to remember that the **root causes of incidents are often systemic** and to focus on finding those causes rather than taking a surface-level approach.



Understand the concept of failing safely. Avoiding failure altogether is aspirational, not practical.

When we aim to fail safely, we’re able to **minimize the failure to the greatest extent** while understanding that it could still occur. To learn more about reframing failure, visit our blog, [Failing to Fail: Reframing Health and Safety Failures.](#)



To learn more about changing perspectives on SIFS, check out our recent episodes of the Two Bald Guys Talking Safety podcast:

Reimagine serious injury fatality prevention: **A journey towards operational learning parts 1 and 2!**





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Let's chat

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Our Evotix team is passionate about applying market leading technology to create safer, smarter workplaces, partnering with organizations that value people's safety, communities and the planet.

As safety professionals and long-term leaders in the Verdantix EHS Green Quadrant, our deep and practical insight addresses your evolving needs, helping you achieve your health, safety and sustainability goals.

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