

# HARNESSING THE POWER OF DATA AND ANALYTICS ON THE JOURNEY TO ZERO HARM

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According to a recent report from the World Health Organization, [medical errors harm up to 40% of patients globally](#). Equipped with more and better tools than ever before, today’s healthcare leaders have an opportunity — and a responsibility — to transform patient safety within their organizations. By harnessing the power of patient safety data and analytics, healthcare leaders can develop effective strategies to improve safety, accelerating the organization’s journey to zero harm.

## Data: Establishing Integrity

Before healthcare leaders can develop effective strategies for improving safety, they need to know where to find the most relevant safety data. They also need to know that the data they’re working with is accurate. For these reasons, data integrity is critical to any high reliability initiative. Health systems with poor data integrity may find themselves sifting through erroneous or immaterial data that can delay or derail progress on the journey to zero harm. Conversely, health systems with superior data integrity have the power to transform safety across their organization.

WEAK DATA INTEGRITY	STRONG DATA INTEGRITY
The organization is looking for data in the wrong places.	The organization knows where to look for the most relevant data.
No standardization: Data sources are different each time, providing conflicting information.	Sources for collecting data are standardized, creating one source of truth.
Data can’t be validated, making reporting unreliable.	Reporting can be trusted because measures are in place to validate and ensure accuracy.
The organization has limited or no visibility into the data and what it means.	Data is readily accessible; leaders are transparent in communicating what it means.
There are either no agreed-upon processes for inputting and collecting data, or employees are not held accountable for adhering to the processes.	Employees are held accountable for adhering to processes, establishing consistency over time in both their inputting and collecting of data.

[Data governance](#) is the foundation for establishing strong data integrity. As organizations look to advance safety initiatives that are heavily dependent on data accuracy, establishing solid data governance will be critical.

## Data for Informed Decision Making

Not all data is created equal. To make progress on the journey to zero harm, healthcare leaders must have visibility into the key areas that impact safety.

- **Safety events:** Leaders must address the most common safety events in their organization, both by department and systemwide. Understanding where patients are most at risk gives leaders a starting point from which to create strategies for increasing safety.
- **Patient feedback:** The patient's perspective can be invaluable in achieving greater levels of safety. If patients are frequently hitting the call button for the same reasons, this could alert leaders to problems that may have been overlooked in the past.
- **Safety scores:** Ratings can gauge where an organization sits along the safety spectrum, enabling leaders to develop the next steps for improvement. One of the most popular sources for safety ratings is [The Leapfrog Group](#), a nonprofit that uses data from the Centers for Medicare & Medicaid Services to rate hospital safety for consumers. Using the Leapfrog criteria, healthcare leaders can create dashboards to show in what areas they are excelling and where they need to adjust.
- **Point-of-care clinical decisions:** Patient-related data that is accessible at the point of care helps providers make informed decisions about their patients in real time. For example, a current record of when patients have taken specific medications can reduce the risk of medication-related safety events.

## Data You Can Trust

To achieve zero harm, healthcare leaders need verifiable data. There are distinct measures healthcare leaders must use to ensure they're working with accurate information.

- **Standardization:** How does the organization define admitting physician? What criteria has to be met for a patient to be considered a readmission? It is critical that organizations establish clear definitions for different types of data and that those different types are

collected by the same means every time. This allows for a standard comparison of safety metrics, both over a period of time as well as in real time, giving leaders the chance to react quickly in the moment and plan for long-term change.

- **Observation and verification:** Even if a health system has thoroughly communicated the procedure for collecting data, it is still important to check if employees are following that procedure, both when inputting data and when collecting it.
- **Data validation:** Implementing additional controls and processes established by data governance policies to validate data provides an indispensable layer of protection against false or misleading information.

## Analytics: Telling the Story

While data provides raw information about the organization, analytics synthesizes that raw information into a compelling and meaningful story. Many healthcare organizations are data rich but insight poor, meaning they lack the analytical capabilities to transform raw data into actionable information. By utilizing various types of analytics, healthcare leaders can create a holistic picture of what is going on inside their organization and develop informed strategies for how to solve problems and improve performance.

### Descriptive Analytics

Descriptive analytics show historical changes over time. Most commonly used to compare against stated goals or industry benchmarks, descriptive analytics can help leaders identify their organization's strengths, weaknesses and progress across multiple categories. On the journey to zero harm, descriptive analytics give leaders a detailed view of the past so that they may create a better future.

## Diagnostic Analytics

Diagnostic analytics also measure historical data over time, but unlike descriptive analytics, diagnostic analytics dive deeper to report on not only what is happening in the organization, but also why it is happening. Uncovering the root causes of safety events is the first step in eliminating them.

## Predictive Analytics

Once leaders have enough historical data to identify major trends, they can use this data to anticipate future challenges or opportunities. This allows leaders to discover and address potential safety risks before they become a problem. When paired with machine learning, healthcare organizations can automate this process to alert them when certain risk factors arise. It also enables leaders to determine if the problem originated within the organization's people, its processes, its technology or a combination.

## Prescriptive Analytics

Where diagnostic analytics locate the origin of a problem, prescriptive analytics reveal what to do about it. For example, let's say a health system has a high number of patient falls. Diagnostic analytics would show that at-risk patients have not been identified throughout the organization, and that the falls mostly happen in the absence of staff. Prescriptive analytics would recommend implementing a system that identifies at-risk patients and communicates this across the organization so when rounding schedules are created, they account for the needs of at-risk patients with extra rounding.

Though the problem may seem insurmountable, healthcare leaders have the power to deliver exceptional care while keeping their patients safe. By pairing accurate patient safety data with robust analytics, healthcare leaders can drive their organizations closer to zero harm.

## Key Takeaways

To advance their strategies for improving safety with data and analytics, healthcare leaders should:

### Think differently.

Remain vigilant in evaluating whether safety data is relevant, accurate and being efficiently applied to improve safety.

### Plan differently.

Develop the infrastructures and procedures that will establish the strong data integrity needed on the journey to zero harm.

### Act differently.

Design the organization's analytics strategy to identify root causes of safety risks.



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