Real-Time Data Are Key to Timely Patient Safety Alerts

By Stanley Pestotnik

In a recent survey, 89% of healthcare leaders polled stated emphatically that their respective organizations’ patient safety programs needed improvement. What was hampering these improvements, according to many survey respondents, was ineffective information technology and data—including the lack of real-time warnings of possible harm events.

Reducing untoward outcomes

If real-time warnings can prevent patient harm, why aren’t providers putting them into place? In simplest terms, they’re not using the right data to drive such alerts.

According to the survey noted above, the common sources of data used for patient safety initiatives are voluntary reporting, hospital-acquired infection surveys, manual audits, and retrospective coding, most often using only administrative coding data. As important as these data sets are, they tend to address a fairly narrow scope of potential risks; in fact, manual reporting of hospital safety events finds less than 5% of all-cause harm.

Moreover, they aren’t timely enough to meaningfully reduce the ever-present risks to patient safety. Manual reporting is based on data that is at least 30 days old, and it requires extensive time and resources for data extraction, aggregation, analysis, and reporting. It’s an approach that is focused primarily on reporting requirements to various agencies and that is severely limited in its ability to address patient-specific harms or risks at the point of care.

Clearly, a better path to patient safety is to use real-time or near-real-time data to predict a broad spectrum of potentially adverse events (Figure 1). This approach is now possible with active patient surveillance technology that is based on predictive and text analytics, and near-real-time data from multiple sources that monitor, detect, predict, and prevent threats to patient safety before harm can occur. Taking this even further, these new active-surveillance modules identify patterns of harm and then propose strategies to eliminate safety risk; again, in time to actually impact care, while the patient is still in the hospital. By leveraging artificial intelligence and machine learning technologies, surveillance gets even smarter over time, further whittling down the risks to patient safety.

Patient safety surveillance: from bedside to boardroom

As powerful as patient surveillance technology is, it is even more so when adopted across the health system in the pursuit of continuous safety improvements.

That can begin at the very top, with a health system’s board of trustees, who increasingly understand the impact of patient safety on brand, finances, and the patient experience. A patient safety module could be used to provide board-level summaries of all-cause harm events, and to correlate with the health system’s various improvement initiatives.
Such a safety analytics module could greatly enhance the timeliness and depth of current data that chief quality officers rely on today to identify and track patient safety events. This data is usually at least one month old, and often lacking in scope. By contrast, surveillance modules based on near-real-time data provide a current review of all-cause harm and high-risk protocols. The chief quality officer now has a daily view of the identified trends in the organization and can also make note of an increase or decrease in these trends.

Similar benefits occur when the chief medical officer has access to a patient safety surveillance module. Consider a facility that has received notice of a multi-million dollar penalty for, say, a high rate of *Clostridium difficile* infections. In the absence of a review process informed by timely data, the facility must rely almost solely on voluntary reporting or retrospective review of coding data. A safety surveillance would enable the chief medical officer to identify potential *Clostridium difficile* cases and make note of inappropriate ordering practices. A decrease in infection rates would soon follow, as would future penalty risk.

For quality improvement managers who are tasked with reviewing multiple types of harm for regulatory reporting and monitoring, the patient safety surveillance module generates timely and nuanced information. Here again, there is no longer a reliance on outdated, coded data that isn’t even available until after the patient is discharged. Utilizing safety surveillance, the team is alerted to potential safety events while the patient is still hospitalized, has one source of valid information for their harm data, and can quickly identify the harm trends with root cause(s) identified for guidance in effecting rapid improvement.

In a similar example, emergency department medical unit directors concerned with patient safety events, such as reducing high rates of bounce backs to the emergency department, now have a vehicle that aggregates specific medication-related harm events, including the severity of the event, the attributable pharmaceutical agent, the prescriber, service-line, and unit-specific attributions.

Finally, findings from the patient safety surveillance can be put to daily use with “unit safety huddles.” Here, the care team utilizes safety surveillance metrics and analytics to discuss patients at risk for harm during these huddles and plan potential risk-reduction interventions. The latter are guided by safety surveillance decision support algorithms.

With these and other uses, health systems can finally end a persistent status quo in their patient safety programs.

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