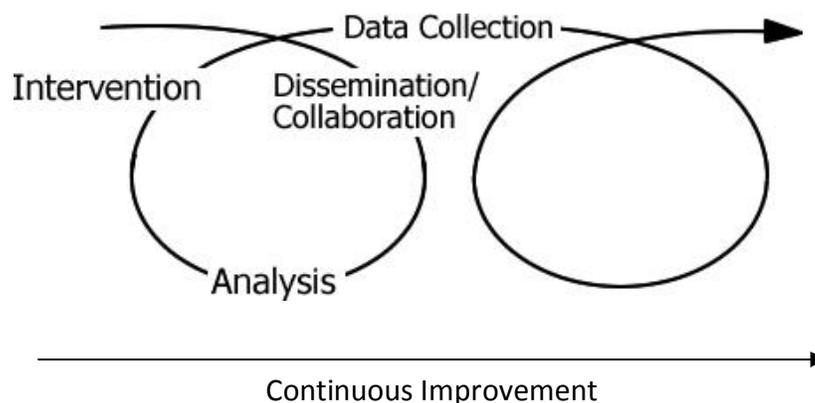**Patient Safety and Strategic Data Management Realized with the Healthcare *SafetyZone*®Portal**

Patient Safety

By: Anna Marie Hajek and Craig Russell

Ensuring Patient Safety is a strategic management decision for healthcare CEOs.   To successfully achieve a sustainable Culture of Safety, it is necessary to make Patient Safety and Quality Outcomes data management a vital aspect of the healthcare organization's information management systems. Measuring your successes, failures, and near misses is integral to creating sustained change across an organization, and requires an organizational-wide strategy that starts at the sharp end of care and continues through to the CEO, Senior Leadership and the Board of Directors.

There are four keys to strategically managing Patient Safety data effectively in your organization: **Data Collection, Dissemination/Collaboration**, **Analysis**, **and Intervention**. These four are not just steps in a linear, one-time process, but rather are integrated steps of the continuous process of positive change that is desired. Taking a look at each element as it relates to information technology can be helpful in both the management of the Patient Safety process and in the selection of a technology partner.

Continuous Improvement

Data Collection – Healthcare providers are busy people, so data collected must be relevant and easily reportable.   This is the fundamental premise of the architecture and technology used to create the Healthcare *SafetyZone*® Portal. The system was built to be flexible because the information collected evolves based on internal and/or external influences. As an example, an organization may start collecting certain baseline events: falls, medication errors, patient complaints, surgical variations and add to those patient demographics, patient units, dates and time, and event descriptions.   As those events are collected more information comes to light. For example, as a series of falls is reviewed, it becomes apparent that there might be a relationship between the type of patient bed that is used and the type of fall being reported. The organization's data collection process must be flexible to adjust for this by asking for bed type in the collection process so that a targeted intervention is possible, if needed. The information technology system needs to be able to respond to the need for taking a deeper look at an event in order to better understand the factors that led to the event. In short, an organization's data collection system must be flexible and easily revisable to support continuous improvement. As stated by one of our clients, "The Portal turned a series of anecdotal events into hard numbers that we could use in our decision-making."

Dissemination/Collaboration – Healthcare organizations that make event reporting available across the organization demonstrate that there is serious attention paid to what is reported and that each unit and staff member has a responsibility to report.   Creating a Just Culture is central to professionals openly taking on this responsibility (Marx, 2001).

        While the reporting of initial event information can originate in the units, once an event is reported there may be multiple areas that are responsible for follow up.   Rarely is an adverse event the result of a single point of failure, but rather a collection of system failures that come together to allow the event to take place. When this happens several perspectives are needed to ensure that thorough investigation and follow up occurs (Reason, 1997). For example, a patient receives the wrong medication and this event is recorded by the unit nurse. The event itself might involve multiple areas in the organization: the medical and nursing staff on the patient's unit, the pharmacy, and even maintenance if equipment is involved in the event. Each group has a different perspective and different knowledge to bring to the event, and as an event is recorded it is important that each area has the opportunity to provide additional follow up. This creates a more complete picture of the event, and also can help reduce the overall time to manage an event and put in place appropriate interventions to prevent its reoccurrence.

It is not sufficient, however, to understand that multiple areas might need to provide information; there must also be a way to streamline this process and make collaboration possible in real time. Many healthcare organizations today still use a process that is sequential … an event occurs … a form is filled out … and then the form is passed from person/department to person/department until all the follow up is complete.   Contrast this to a Real-time Notification Process that enables the dissemination of events to all parties, and gives the opportunity to all parties involved to recall and record the details of their relationship to this event while the facts are still fresh. In addition to the dissemination feature, Real-time Notification creates the condition for collaboration among providers so that serious issues can be dealt with quickly. Enabling this capability in an organization not only accelerates action, but also sustains the organization's Culture of Safety.

Analysis – The accumulation of data and investigation are important to set the stage for the insight that can be gained from comprehensive analysis once the data collection process is complete. Just as the integration of perspectives is essential to the investigative portion of event management, the ability to access an integrated data base in order gain organizational insight is essential to the strategic management of patient safety data.   By making Patient Safety an organizational imperative (a strategic management decision) you have the ability to destroy department silos (e.g. Quality Management, Risk Management, Safety Management) and focus the analytical effort on what can improve the safety and healthcare outcomes of all patients across the organization.

Analysis needs to be able to occur at every level of the organization, and needs to take multiple perspectives into account. Providing analysis capabilities down to the unit level of organizations fosters accountability for event outcomes and supports the Culture of Safety by empowering staff to better understand the conditions that can lead to error or adverse outcomes. Professional perspectives dictate how data might be interpreted by each discipline and role a person plays, e.g. Risk, Quality, Safety, Service or unit nurse, manager, director, senior leader. In a "siloed" environment, each professional can look at the results and take away their respective piece based on that perspective. But in a strategically focused environment these same professionals can look at the data in an integrated way to gain a more complete and systemic understanding of what is occurring and why.

Ultimately the goal of collecting data in a structured manner is to analyze the data in order to transform it into actionable information. While this may seem like the end of the process, it is actually part of the continuous process of change. Strategic data analysis can provide

answers, but also can inspire additional questions, "Why are the units on the 4th floor having higher levels of falls?", "Why do we have a higher number of surgery cancellations on Wednesdays?", or "Why have patient complaints increased in the last month?" These questions may require additional data to be collected and the technology system needs to be able to respond quickly to this need as we have previously discussed.

> *A True Story*
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> *Not too long ago, a Nursing Director at a North Carolina community hospital noticed that she had received several events from different nursing units all relating to laboratory patient identification issues. She immediately alerted the Performance Improvement Department which was able to receive all patient identification events entered into the Portal from across this multi-hospital system. The Performance Improvement Director monitored the situation for 30 days, determined there was a broader problem, and put corrective actions in place.*
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> *According to the Performance Improvement Director, "The reports coming out of the SafetyZone Portal were instrumental in helping us identify the root causes, and ultimately reduce lab misidentification issues. Furthermore, it enabled us to easily expand our analysis to improve pathology specimen misidentification as well."*

Intervention – Once actionable information is attained the organization can set in motion the changes that are needed. These can include staff education, process changes, equipment changes, new policies and procedures and whole new ways of monitoring certain situations to stop potential problems before a dangerous level is reached. These interventions need to be tied to the event technology system in terms of helping staff see that the organization is serious about sustaining a Culture of Safety because there is a clear connection between the staff taking responsibility for reporting and the administration taking responsibility for acting on what is reported. Constructive interventions create positive organizational awareness that fosters Patient Safety.

What You Should Expect from Your Patient Safety Data Management System

While there are many data collection systems available, utilizing a web-based tool with easy to use template driven collection and follow-up processes can fit well with the overall trends in healthcare informatics. A system that enables Real Time Notification and collaborative work flow processes is desirable. Also of importance is a robust analytical system that allows for easily created graphs and reports that turn data points into actionable information for the unit nurse, senior leadership or the Board of Directors. Another significant function is the ability to connect events with the policies, procedures, education and insights provided to staff so that a 'just in time' learning process is created within a Knowledge Management system that demonstrates the organization's accountability for safety.

The **Healthcare *SafetyZone*® Portal** encompasses all these features in a system that allows for personalization to catch the 'personality' of your organization. The Portal also brings a support system that truly becomes your partner invested in the success of the organization as well as the technology. Selecting the appropriate data management tool and technology partner is important to support both the organization's Culture of Safety and the successful and strategic management of Patient Safety data.

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Resources
1. D Marx, "Patient safety and the 'Just Culture': A primer for health care executives," Medical Event Reporting System for Transfusion Medicine, http:// dodpatientsafety.ushs.mil/index (accessed 9 Feb 2009).
2. JT Reason, "Managing the Risks of Organizational Accidents" Aldershot, Hampshire, England: Ashgate; 1997

For more information and a demonstration of the

Healthcare *SafetyZone*® Portal please visit www.claritygrp.com.