Mistake proofing the hospital: How a pediatric hospital made a step-change improvement in patient safety

Challenge

The process for responding to serious adverse events and making changes to prevent future occurrences stretched over 280 days or more. Defects and significant delays undermined the pediatric hospital's fundamental mission to minimize the risk of potential and actual patient harm.

In the spring of 2012, UCSF Benioff Children's Hospital Oakland (formerly Children's Hospital & Research Center Oakland) identified a need to assess its patient safety event reporting and response process. Despite a clear leadership emphasis on patient safety and universal understanding of its importance, leaders were simply not satisfied with the current process. Concerns with information overload and wasted resources prompted a value stream mapping workshop to map and analyze the baseline process, conditions and problems, and then develop a vision and plan for improvement. The team discovered that the process for responding to serious adverse events and implementing changes did not align with the hospital's fundamental mission to minimize the risk of potential and actual patient harm. The time to receive notification of an adverse event, investigate, and implement improvements to prevent future occurrences was ineffective and painfully slow, stretching over 280 days or longer.

Countermeasures

Designed using the principles and methodology of the Toyota Management System, the new process (dubbed Patient Safety STAT*) emerged from a series of process improvement workshops. Any staff member can now report concerns, and a multi-disciplinary team is available 24/7 to respond, investigate and implement improvements within a one-month window.*

With coaching and guidance from Rona Consulting Group (RCG), special project teams sponsored by the hospital's CEO and COO engaged in a set of workshops to immediately redesign the process. Each workshop addressed various elements of the safety process, including incident notification, rapid response, countermeasures, root cause analysis, action plan implementation, status monitoring and closure. The teams drew upon Toyota Management System process improvement methodologies and practices as their primary method for improvement. In addition to reducing the total response lead time, the goals were to make sure

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that all serious events were thoroughly investigated, that all employees understood when and how to invoke the new process, and that employees wouldn't hesitate to use it.

Ultimately, the teams developed standard work and tools to align with their goal of activating prompt response and resources to reduce risk to patients and to address the needs of families, physicians and staff.

Key results

Results achieved include an 89 percent reduction in the time from event notification to closure (from 280 days to within 32 days) and a 94 percent reduction in time required for root cause analysis. In addition, the new process strengthened the alignment of leadership and staff around the goals of advancing patient safety and building a safety culture.

Implementing significant process changes required collaboration among many, including the hospital's leadership, Kaizen Promotion Office, quality and patient safety department, and education, communications and support departments. Following the introduction and rollout of the new Patient Safety STAT process, improvements were immediate:

- An 89 percent reduction (from 280 to within 32 days) in the total lead time from safety event notification to closure *(see Figure 1)*.
- Nearly threefold increase in the number of reported safety incidents.
- A 94 percent reduction (from 64 to within 4 days) in the time from notification to completion of root cause analysis.
- An 86 percent reduction (from 216 to 31 days) in the time from root cause analysis to action plan completion, dramatically reducing the potential for future safety issues.
- Since June 2012, 83 percent of safety event response projects have been completed within 32 days or less *(see Figure 2)*.
- Total productivity gains significantly increased staff capacity to perform safety incident investigations without requiring any additional personnel.

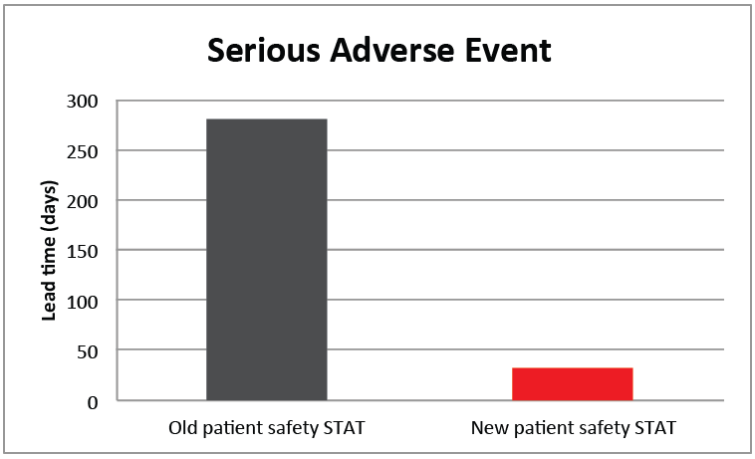

Figure 1. An 89 percent reduction (from 280 to within 32 days) in the total lead time from safety event notification to closure.

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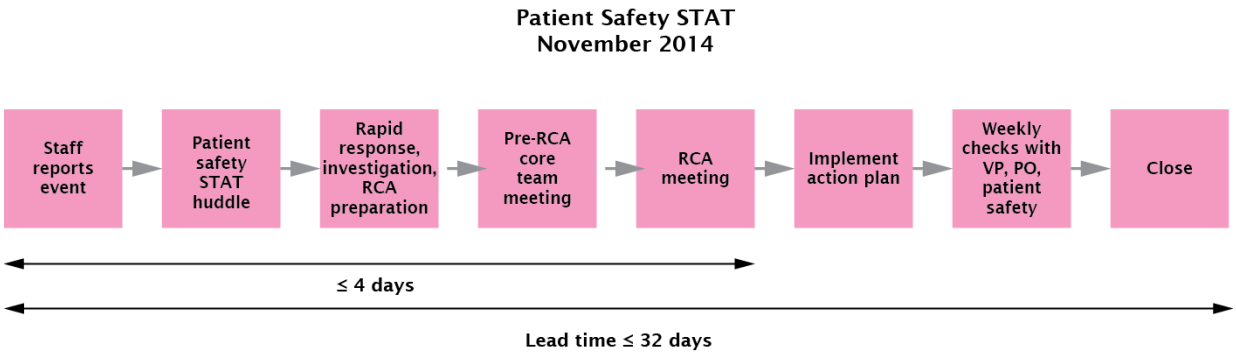

Figure 2. Since June 2012, 83 percent of safety event response projects have been completed within 32 days or less.

Lessons learned

As this case study demonstrates, building a safety-oriented culture in a hospital starts with leadership behavior and process excellence.

Performing a thorough root cause analysis within four days of a serious safety event initially seemed daunting to the team, but it proved to be essential and possible. Rapid response and follow up are critical not only to preventing defects related to patient care activities, but also to reducing risk of harm to patients and to addressing immediate impact of events on families and members of the healthcare team.

> *"Leadership support is a prerequisite and absolutely critical for improving any process, but especially for safety events given that time is of the essence and resources from multiple disciplines are typically required throughout the process."* Richard DeCarlo, Executive Vice President and Chief of Hospital Operations

> *"The Toyota Management System aligns perfectly with the pursuit of zero defects in hospital quality initiatives. Children's previously adopted the principles of high-reliability organizations described by Weick & Sutcliffe to further strengthen our safety culture. The synergy between these systems has led to the creation and assurance of reliable processes with standard work, best practices, and prevention bundles for hospital-acquired conditions."* Carolyn Dossa, Vice President Institutional Quality & Family Support Services

Through reflection on the new Patient Safety STAT process, the leadership identified lessons learned and success factors. These included the need to sharpen the focus of action plans on current problems, to involve area leaders in the improvement process, and to follow up in order to ensure process changes are in place. The challenge of closing out action plans was solved by incorporating "gemba validation" into the corrective action process: leaders are responsible for going to the work areas (the "gemba") to see and validate the changes and identify opportunities for further improvement.

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Although the new Patient Safety STAT process was put in place to respond to serious adverse events, physicians and staff soon began using it to address near misses and potential events. Having an effective process to eliminate potential opportunities for error further bolstered both the reporting process and the hospital's safety culture.

> *"While changing the culture of an organization is usually a slow and difficult process, major strides can be made swiftly with the appropriate structure, systems in place, encouragement and positive feedback for using the systems."*
> Bertram Lubin, MD, President and CEO

About UCSF Benioff Children's Hospital Oakland

UCSF Benioff Children's Hospital Oakland (formerly Children's Hospital & Research Center Oakland) is a premier, not-for-profit medical center for children in Northern California, and is the only hospital in the East Bay 100% devoted to pediatrics. It is a part of UCSF Benioff Children's Hospitals, formed on January 1, 2014. UCSF Benioff Children's Hospital Oakland is a national leader in many pediatric specialties, including hematology/oncology, neonatology, cardiology, orthopedics, sports medicine, and neurosurgery, and a leading teaching hospital. The hospital is one of only five ACS Pediatric Level I Trauma Centers in the state, and has one of the largest pediatric intensive care units in Northern California. UCSF Benioff Children's Hospital Oakland has 190 licensed beds, over 500 physicians in 43 specialties, more than 2,600 employees, and a consolidated annual operating budget of more than $500 million.

The hospital's research arm, Children's Hospital Oakland Research Institute (CHORI), is internationally known for its basic and clinical research and is ranked among the nation's top ten research centers for National Institutes of Health funding to children's hospitals. For more information, go to www.childrenshospitaloakland.org and www.chori.org.

About Rona Consulting Group

Rona Consulting Group (RCG) is a management consultancy serving integrated healthcare systems, hospitals and clinics, medical suppliers and governmental organizations. We develop lean leaders and assist in transforming organizations through educating, training and coaching executives, managers, clinicians and frontline staff. RCG is committed to partnering with and helping organizations achieve the highest quality through zero defects, increased patient satisfaction, empowerment of staff, and improvement in financial performance through the application of the Toyota Management System.

Based in Seattle, Washington, USA, we maintain offices in Boston, Houston, Los Angeles, Minneapolis, New York, Oakland, Phoenix, Portland, Raleigh, San Diego, Seattle and Tokyo.

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