



# TURNING THE IMPROVEMENT LENS INWARD

## Patient Safety Event Review Optimization

Children's Hospital Los Angeles  
4650 Sunset Blvd, Los Angeles, CA 90027  
[www.chla.org](http://www.chla.org)

Chandra Broadwater, MPH, MFA, CLSSBB  
Administrator, Quality Improvement and Patient Safety  
[cbroadwater@chla.usc.edu](mailto:cbroadwater@chla.usc.edu)  
323-361-6489

Becca McKnight, MHA, CLSSBB, PMP  
Performance Improvement Program Manager  
[rmcknight@chla.usc.edu](mailto:rmcknight@chla.usc.edu)  
323-361-6638

Elizabeth Wang, MHA, CLSSGB  
Quality Coordinator  
[ewang@chla.usc.edu](mailto:ewang@chla.usc.edu)  
323-361-4913

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*Brief statement by an executive leader in support of the application.*

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To: HQI C. Duane Dauner Quality Award Selection Committee

From: Niurka Rivero, MD  
Chief Patient Safety Officer  
Clinical Professor of Pediatrics  
Department of Anesthesiology Critical Care Medicine  
Children's Hospital Los Angeles

Children's Hospital Los Angeles (CHLA) is an urban pediatric healthcare system that admits 14,600 inpatients, logs an estimated 343,800 outpatient visits per year and provides care through more than 350 specialty programs. CHLA is uniquely positioned as a safety net hospital that is also ranked No. 6 nationally by U.S. News and World Report and No.1 in California. Since the implementation of an electronic safety event system in 2012 by the Quality Improvement and Patient Safety (QIPS) Department, the hospital has experienced increases in census, acuity and severity of patients, along with an increased share of safety events. Seeing this data over time, it became critical for our Patient Safety team to move from the traditional reactive state of root cause analysis and embrace a model focused on rapid change. This gift of change, complemented with the insight, team-building and empowerment that have come from our work together over the last year, has allowed the team to pivot and quickly adapt to the new world in which we live, all with the goal of improving how we keep our patients safe.

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*Executive Summary (limit 200 words).*

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The QIPS Department is responsible for organizational performance improvement (PI). The Patient Safety Event Review Optimization was the first internal PI project the department elected to complete, due to staff burnout and increasing complexities of event reviewing standards. The project team investigated and improved event reviewing, escalation and regulatory reporting processes.

With a focus on eliminating waste, the team took a Lean Six Sigma approach and conducted a 1-day Kaizen workshop. From there, the group met weekly over the next year. As a result of these efforts, the time from event submission to resolution for a Serious Safety Event (SSE) decreased from 53 days to 24 days, a 29 day or 55% improvement. The number of SSEs during this time also decreased by 20%. For reportable Never 28 Events, the length of time to resolution

decreased from 56 to 27 days, a 29 day or 52% improvement. All event reports regardless of severity had similar decreases in turnaround time, a 55% improvement from 42 to 19 days.

Undergoing the improvement cycle improved team dynamics and job satisfaction. These efforts have also positioned the team to adapt quickly to changing organizational factors such as increased census and higher acuity patient populations.

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*Background and relevance of the problem being addressed and effort undertaken.*

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The Patient Safety Program at CHLA was started in 2010 by a very small group of individuals. Systematic redundancies ensured patient safety events were not missed. While this was an appropriate approach at the time, significant departmental, organizational and patient volume growth began overburdening the system. These redundancies created barriers for staff to efficiently follow up on events. For example, a 2-hour weekly meeting led to over-documentation and batching of action items.

Due to the sensitive nature of patient safety events, the review process can be emotionally taxing. Additionally, a convoluted process created burnout and left the team feeling unempowered. Department leadership recognized the pressing need to change and adapt and decided to turn the improvement lens inward.

The Patient Safety team had a desire and tools for change, but not the mindset. A Lean Six Sigma approach was needed along with the creation of a routine improvement meeting.

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*Describe the effort, including the scope, process, strategies and tactics utilized, challenges encountered and how they were addressed.*

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The project team was comprised of the Chief Patient Safety Officer (CPSO), the QIPS Administrator, a PI Program Manager, 3 Patient Safety (PS) Coordinators, 2 QIPS Coordinators, a Data Analyst and a Regulatory Coordinator. All members of the project team are part of the QIPS Department and have had various levels of training in Lean Six Sigma, with nearly all of them holding a Green Belt and the QIPS Administrator and PI Program Manager being Black Belt certified. The QIPS Department has extensive performance improvement responsibilities for the organization, leading many enterprise-wide endeavors. This was the first internal PI project the department embarked on due to stressors and burnout amongst the team and increasing complexities of patient safety event reviewing standards.

The project team set out to investigate and improve the patient safety event reviewing, escalation and regulatory reporting processes. This expansive scope included the following activities:

- Assessing how patient safety events were assigned and reviewed daily by each member of the team
- Categorizing and triaging events due to severity and priority
- Coordinating and performing root cause analyses (RCAs) to prevent errors from occurring again
- Communicating event information among the PS team and with hospital leadership, frontline staff and providers
- Collaborating and coordinating with the internal regulatory team and external reporting agencies

With a major focus of eliminating waste, the project team elected to take a Lean Six Sigma approach and conducted a 1-day Kaizen workshop. Prior to the workshop, the PI Program Manager and QIPS Coordinators interviewed each team member to understand their current processes and approaches to reviewing events and communicating pertinent information.

These interviews were compiled into a SwimLane process map with a total of 196 steps. During the workshop, the PI Program Manager and QIPS Coordinators led the team through a series of exercises and analyses, ranging from a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, process map analysis, brainstorming, visioning and a paper plane exercise, which was aimed at helping the team to see current inefficiencies but also provide a constructive outlet for process burnout. After the Kaizen concluded, the team met weekly to prioritize and execute interventions.

A few of the major solutions created and implemented are the following:

- Consolidation of 6 patient safety dashboards and databases into 1, reducing multiple layers of redundant documentation and inaccurate information
  - Significant redesigning and creating of electronic forms and sections within event reporting system
- Dynamic triage system to delineate depth and method of RCA review due to event severity, potential for harm or frequency
  - RCA bedside huddles for less severe events, reducing strain of organizing schedules and conference rooms that are severely limited
  - The National Patient Safety Foundation's Root Cause Analyses and Actions (RCA<sup>2</sup>) process, which soon will include the patient and family perspective, a long-time goal

- Expansion of the RCA process to include process mapping, creating a Swiss Cheese Diagram for any deviations in standard care practices, doing a Gemba (going to where the event occurred to understand the physical layout constraints) and interviewing staff and other frontline representatives
- Rebranding event reporting system to be perceived as more non-punitive
- 15-minute daily check-in conference call (replacing 2-hour weekly meeting) to create space for PS Coordinators and CPSO to regularly touch-base and be able to ask questions about high-severity events, notifications to regulatory agencies and any other critical patient safety needs
- Restructured Medical Staff Patient Safety Event Review Committee meetings to be more fruitful and meaningful with less rehashing of event details and more focus on solutions
- Streamlined process for partnering with regulatory team and during site visits

Despite PI training, experience and certifications, the project team fell into familiar PI traps, struggling to get out of the weeds and have truly transformative ideas. To increase acceptance and comfort with change, the team leaned heavily on the Plan, Do, Study, Act (PDSA) model, constantly making minor tweaks to improvements to continue to question old practices and habits. Over time, individuals became more comfortable with bigger changes and began speeding up the rollout of changes.

Another challenge faced was a drastic increase in reportable Never 28 Events over the span of 3 months. This new volume pushed the capacity limits for the Patient Safety team. Without the optimization efforts, the team would have experienced extreme distress as key personnel left the organization during this time. In response, the team quickly implemented bedside RCA huddles, which drastically cut down the time spent coordinating meeting room locations and calendar invites and offered the opportunity to include more frontline staff. These RCA bedside huddles had a ripple effect as unit staff began to see patient safety was a priority in their work area and therefore took more accountability in identifying and implementing corrective actions.

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*Describe the results of the effort.*

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More meetings and documentation do not always lead to better results. By eliminating 51 process steps, from 196 steps to 145, the team was able to become more agile and responsive to patient safety events. With fewer people, less documentation, more communication, more thorough chart reviews and dynamic RCAs, the team was able to decrease turnaround time from event submission to resolution across the board, leading to better solutions and increased accountability.

The time from event submission to resolution for a Serious Safety Event decreased from 53 days to 24 days, a 29 day or 55% improvement. The number of SSEs during this time also decreased by 20%. For reportable Never 28 Events, the length of time to resolution decreased from 56 to 27 days, a 29 day or 52% improvement. All event reports regardless of severity had similar decreases in turnaround time, 55% improvement from 42 to 19 days.

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*Discuss the significance of the results. How do the results demonstrate outstanding achievement?*

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Over the last 8 fiscal years, annual inpatient admissions have increased by 42% and average daily census has increased by 30%. These extensive increases have led to momentous organizational process and personnel changes. This undoubtedly factored into the 42% increase in Never 28 Events this fiscal year, which significantly impacted the Patient Safety team due to the additional time and documentation constraints placed by regulatory bodies. The unprecedented amount of event reviews (e.g. meetings scheduled, documentation and follow-up) led to noticeable burnout. Over those 8 years, there was only 1 PS Coordinator, until 1 other was added in 2016. The 3<sup>rd</sup> PS Coordinator was added to the team in 2019, as part of the optimization efforts.

Additionally, the combination of decreasing redundant documentation, empowering PS Coordinators to make process changes and improved communication drastically decreased the time PS coordinators spent reviewing events daily, from a total of 135 hours to 61 hours a month, a 55% decrease. This is significant because it allowed the team to spend 74 additional hours a month on preventing errors from occurring rather than reviewing events that already reached the patient. In only a few short months, the PS Coordinators have been able to lead workgroups around fracture prevention, unplanned extubations, IV infiltrates and extravasations and MRI safety. Furthermore, the weekly time dedicated to optimization has created more opportunity to investigate and improve other areas of patient safety, such as collaboration with Medical Staff during situations of patient grievances that may entail patient safety events or near misses.

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*Describe sustainability and scaling of the achievements.*

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Undergoing the improvement cycle has shown drastic improvements among team dynamics and job satisfaction. The team's level of willingness to not only accept, but to drive change, has been and will be paramount to the further scaling of future achievements.

An example of this is the RCA bedside huddles. The major focus of the huddles has been Pressure Injuries (unstageable, Stage III, and Stage IV), as they were a key factor in the dramatic increase in reportable Never 28 Events. Since implementation of RCA bedside huddles, Pressure Injuries have decreased by a staggering 75%, with only 1 in 2019.

The team has already begun expanding the huddles to include other types of events. The team is confident that the bedside huddles, due to the inclusivity of frontline staff and bedside location, have only begun to reap the expected benefits. The ultimate goal is to begin facilitating huddles around near misses, preventing events from happening in the first place. On top of having more time for improvement work, the team has shifted their mentality from reactive to generative.

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*Describe key lessons learned and any advice to colleagues who might try to undertake a similar effort.*

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There were many lessons learned along the way during this project. No matter how trained in PI methodologies or how competent people are, it is incredibly difficult and personal to go through the improvement process. Additionally, a clear sense of urgency and desire to change are paramount, as well as humility and servant leadership.

Other important lessons learned include:

- Convolved and overburden processes can decrease empowerment and ability, by staff and leadership.
- Real time conversation spread throughout the week during the 15-minute daily check-ins has had long lasting positive impacts on trust within the team and confidence about decision making from leadership.

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*Supplemental Information*

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**Exhibit 1. Never 28 and Serious Safety Events**

Never 28 and Serious Safety Events	Apr '17 - Mar '18	Apr '18 - Mar '19	Net Difference	% Net Change
Length of time a Serious Safety Event is open (days)	53	24	↓29	↓55%
Number of Serious Safety Events	10	8	↓2	↓20%
Length of time a Never 28 event is open (days)*	56	27	↓29	↓52%
Number of Never 28 events	26	37	↑11	↑42%

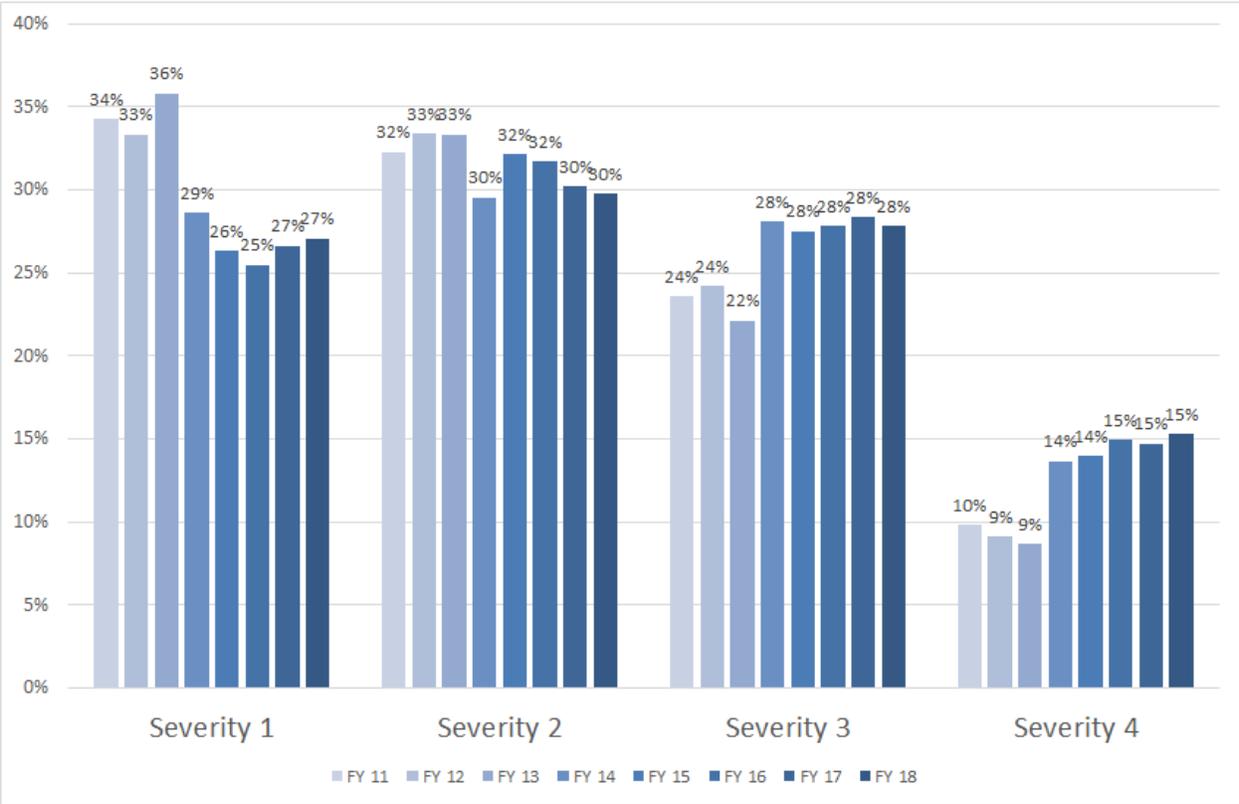
\*Never 28 events in iReport that did not have a closed date were not included in this metric

**Exhibit 2. Patient Safety Event Surveillance and Management**

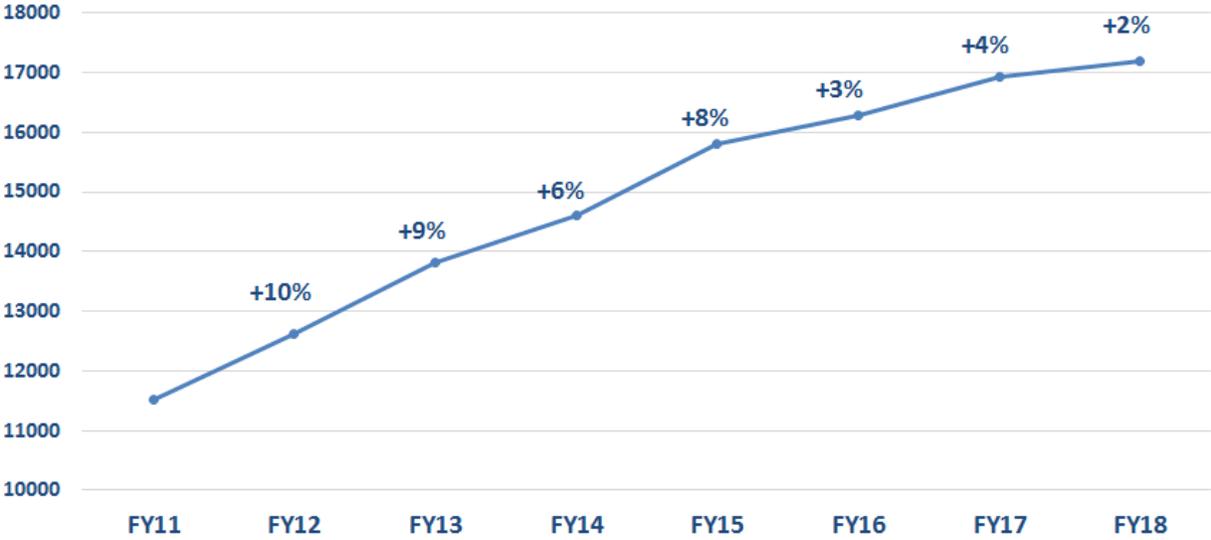
Patient Safety Event Surveillance & Management	Before	After	Net Difference	% Net Change
Time spent on Daily Surveillance (hours)	135	61	↓74	↓55%
Length of time an iReport is open (days)	42	19	↓23	↓55%
People on Daily Surveillance team	10	3	↓7	↓70%
Number of Dashboards and Databases	6	1	↓3	↓50%
Duplication of High Risk Events on Dashboards	5	0	↓5	↓100%
Number of In-Depth RCAs Performed*	10	4	↓6	↓60%

\*Comparing events from the same year with the old RCA vs new RCA2 process

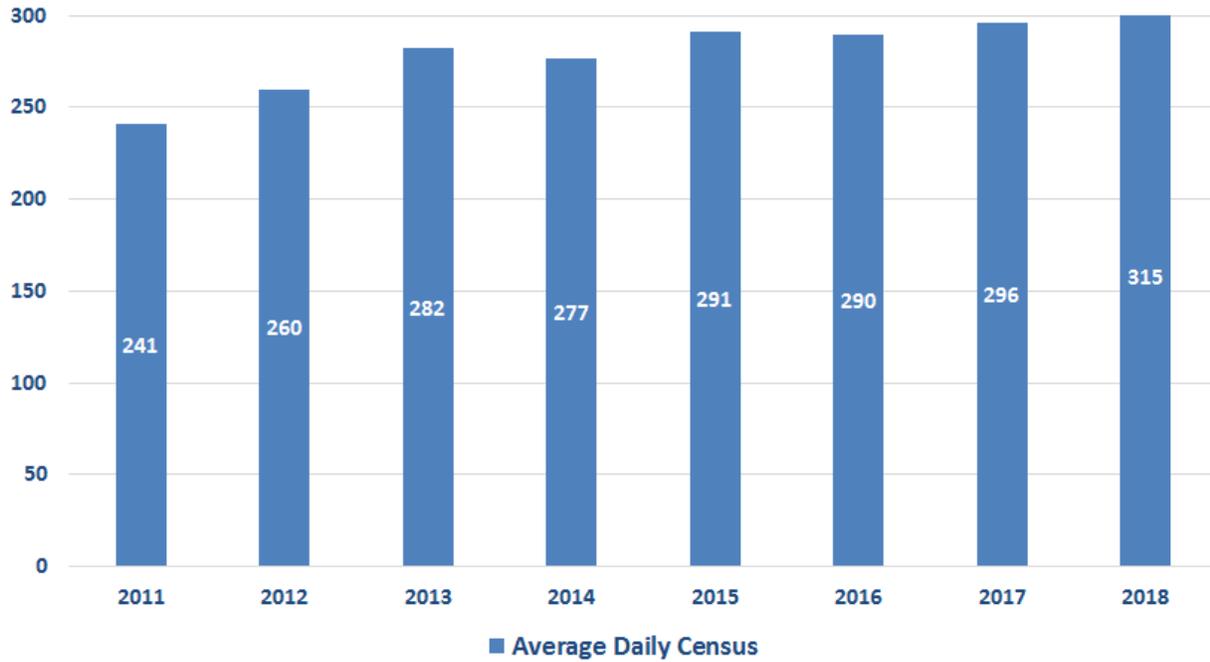
**Exhibit 3. CHLA Patient Severity Levels FY11 - FY18**



**Exhibit 4. CHLA Admissions FY11 - FY18**



**Exhibit 5. CHLA Average Daily Census FY11 - FY18**



**Exhibit 6. Patient Safety Team’s Work Efforts Before and After**



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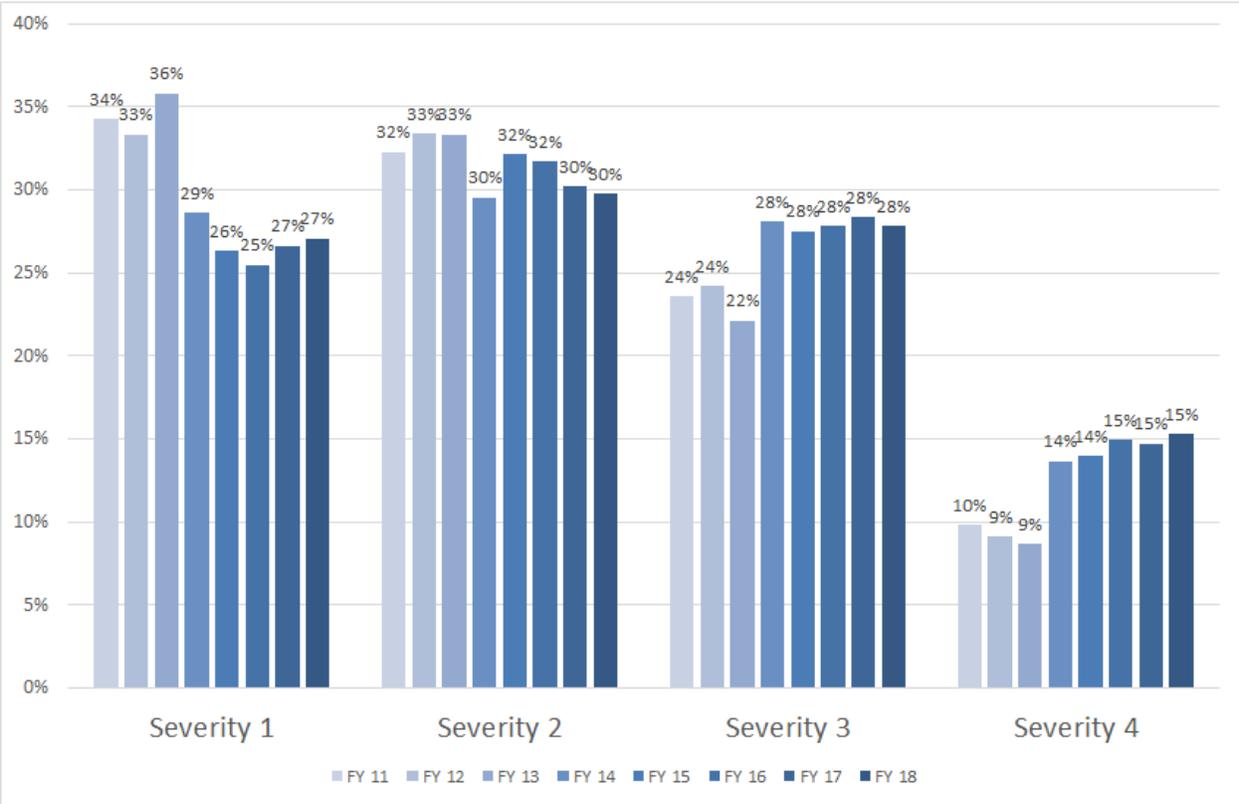
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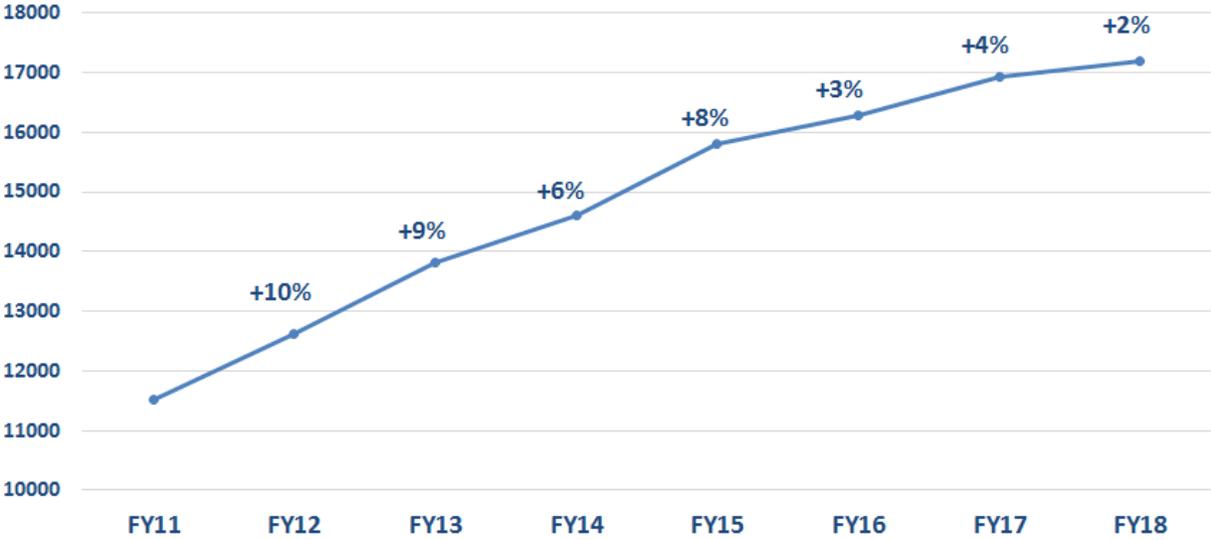
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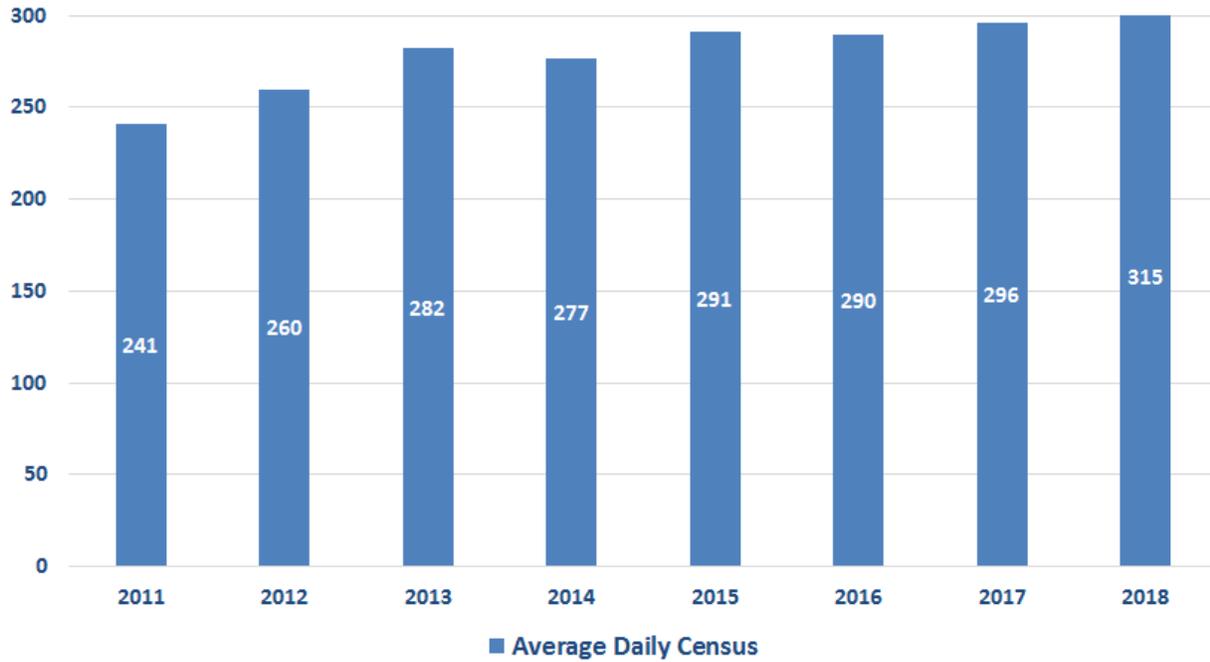
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**Exhibit 6. Patient Safety Team’s Work Efforts Before and After**

## BEFORE




- Duplicating event information in different spreadsheets
- Multiple people performing chart review
- Contacting same people for information
- Rehashing events in multiple meetings
- Scheduling multiple meetings
- 196 steps in process map

## AFTER




- RCA Bedside huddles
- Increased collaboration with Regulatory team
- Rebranding reporting system
- Restructuring meetings to be more efficient
- Performance Improvement projects
- Pioneer patient/family involvement
- Develop RCA2 team
- PSO Policy implemented
- Redesigning and creating electronic forms
- 145 steps in process map