

Patient Safety: System Deployment

Problem: Feel Better Hospital (FBH) and affiliates are experiencing a high number of patient safety events including sentinel events and never events.

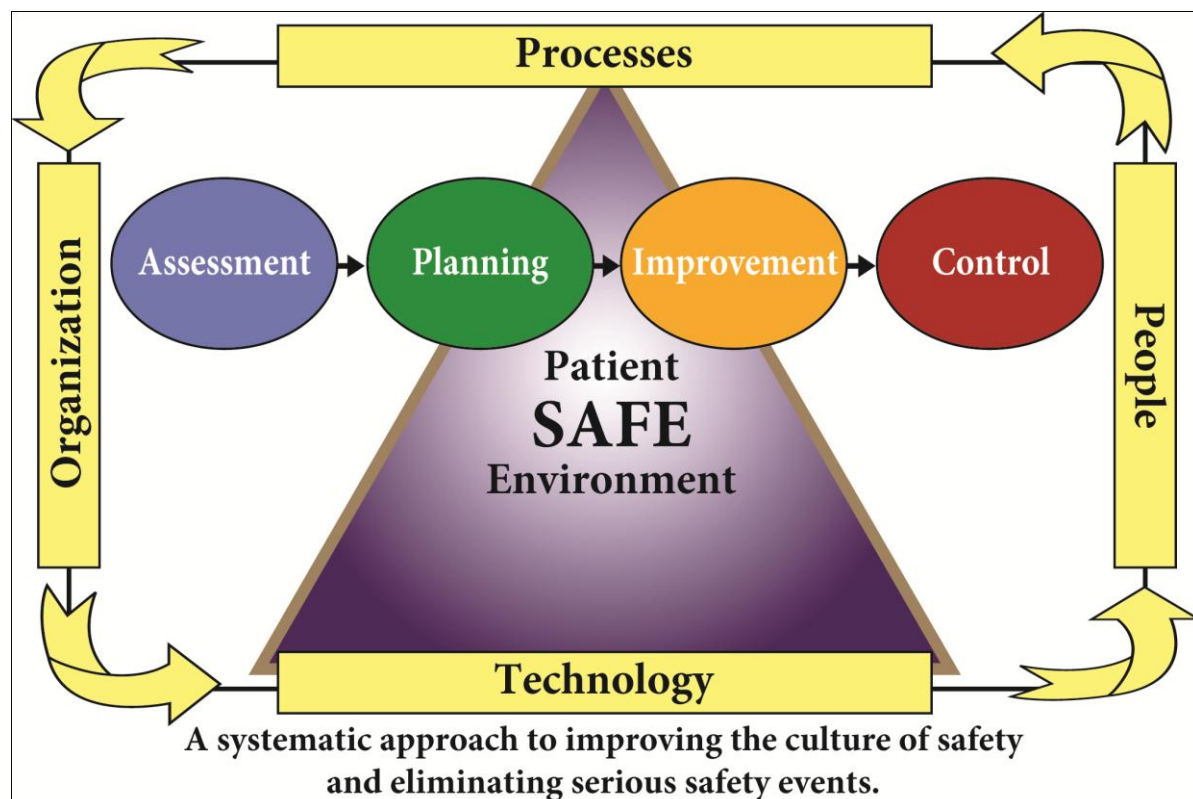
Deployment Goals: To achieve top 10% performance according to Leapfrog:

1. Improve annual patient safety culture survey results
2. Reduce annual number of sentinel and never events
3. Improve performance of all Leapfrog indicators
4. Increase incident reporting of near miss events

Deployment Process:

Overview - In collaboration with Juran, FBH embarked on a patient safety journey following the Juran Patient Safety Model. The purpose of the Juran Patient Safety Model is to provide a scientific approach to reducing serious safety events caused by human error and system process breakdowns. The Juran Patient Safety Model incorporates the Juran Trilogy® (quality planning, control, and improvement) to comprehensively create a strong culture of safety and improve human performance and process reliability, in order to reduce medical errors and serious safety events.

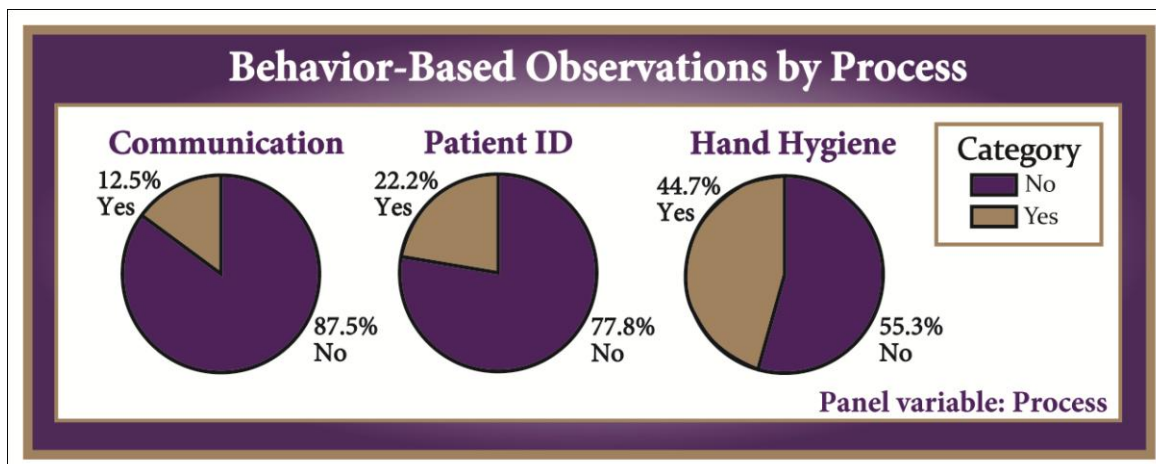
Figure 1: The Juran Patient Safety Model and Roadmap



Assessment - Juran patient safety experts conducted an assessment utilizing the following tools and methods: patient safety culture survey; behavior-based observations; executive, physician, and staff interviews and focus groups; incident reporting system analysis; and event management. The assessment was performed at the 450-bed flagship tertiary care hospital, a 60-bed inpatient and long-term care urban hospital, and a 60-bed inpatient and outpatient rural hospital.

1. **Patient Safety Culture Survey** - In 2008, FBH conducted its first patient safety culture survey. The response rate was only 35%, but the data and feedback obtained from the survey benefited FBH in getting started. The purpose of the survey is to provide leadership with an understanding of the behaviors and beliefs of the members of the organization in regards to certain aspects of the patient safety culture. These aspects include communication, empowerment and accountability, senior leader and management commitment to safety, ability to detect and learn from mistakes, disclosure, and overall patient safety grading. The results and comments captured in the survey can provide a platform for identifying opportunities for improvement in human performance and process improvement. The survey also provides input into the maturity of the organization in regards to how the organization responds to human error and patient safety events.
2. **Behavior-based observations** - In June 2009, patient safety experts at Juran conducted an observational assessment based on known patient safety standards set by the organization, as well as regulatory agencies such as positive patient identification, proper hand hygiene, and communication. Observations capture the true essence of culture by capturing the real behaviors of caregivers at the bedside. Although behavior-based observations are a powerful assessment tool, they also provide the cornerstone of human performance improvement and sustainability through the implementation of leadership rounding and peer coaching programs.

Figure 2: Results of behavior-based observations

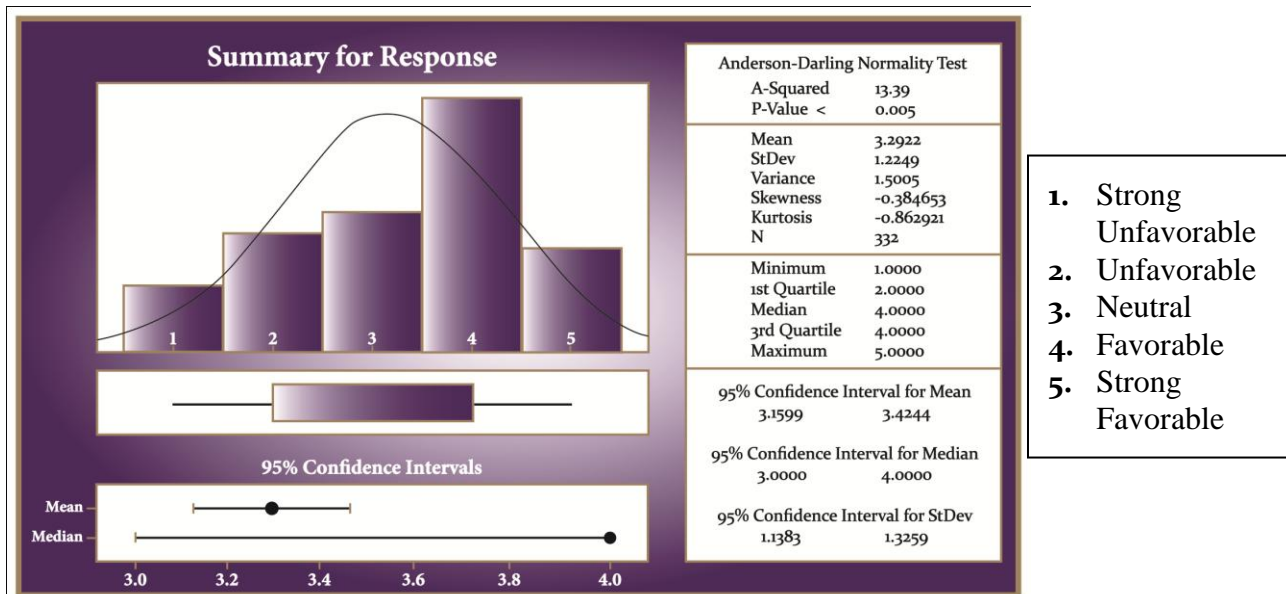


Conclusion: There is a statistically significant dependency on compliance by caregivers and the process. Based on the sample observations, compliance with hand hygiene is higher than expected and communication and patient identification are lower than expected.

3. **Executive and staff interviews** provided a platform for key members of the organization to provide feedback and elevate key issues of safety in a non-punitive environment. The interviews also provided a useful avenue for generating and extracting ideas for improving key patient safety processes. A patient safety expert scored the interviews using a Liechert scale in the following categories: communication, empowerment and accountability, senior leadership and management commitment, ability to learn from mistakes, and disclosure and transparency. There were 17 total interviews conducted to include eight physicians and nine nurses with an average of 10.8 years of service. In addition to the Liechert scores, the following key issues and themes from comments were derived:

- Lack of global communication on patient safety issues, root cause analysis, and on-going initiatives
- Lack of standard processes and chain of command procedures for elevating and resolving issues
- Lack of senior leadership visibility and commitment
- Lack of processes and resources for resolving known or discovered chronic problems
- Lack of integration, standardization, and clear physician processes and infrastructure between outpatient clinics and hospital

Figure 3: Cumulative score for all categories and all interviews



Conclusion: The average cumulative score was 3.3 +/- 0.1 indicating that overall perception of patient safety at FBH, based on the six categories, was neutral.

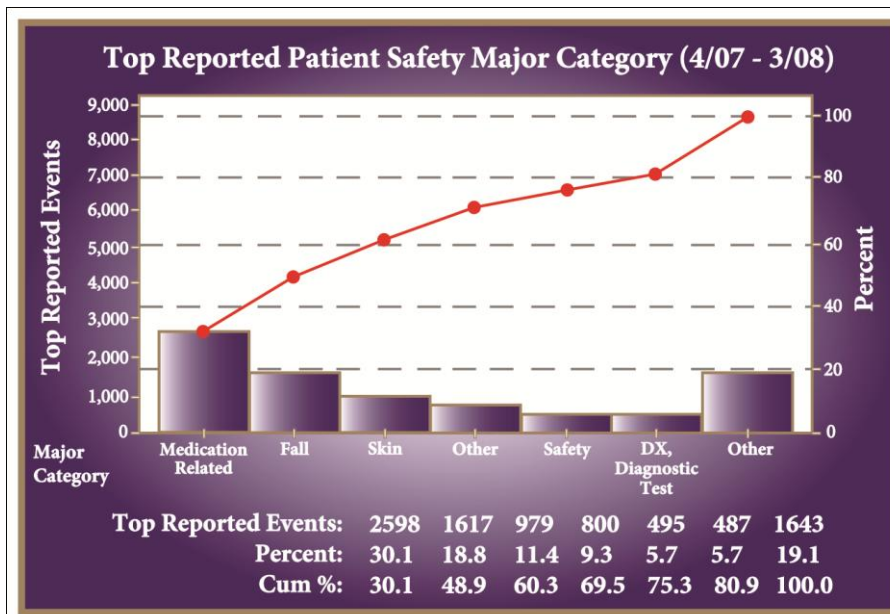
4. **Incident reporting system analysis** identifies key system issues and process breakdowns that are the potential root causes of serious safety events for an organization. High-risk departments such as Emergency and Surgical Services

should report at least 25 variances for every serious safety event. This ratio or higher indicates a culture capable of detecting error precursors and potential root causes of serious safety events before they happen. Healthy variance reporting provides the capability of the organization to proactively reduce error and the likelihood of events, rather than relying on reactive root cause analysis when serious safety events occurred. FBH utilized an online incident-reporting tool and received around 10,000 incident reports annually or 1.1 per employee. The recommendations for improvement for both the incident reporting system and event management process included the following:

- Reporting - Simple, user-friendly, and fast
- Response - Severity score, event management
- Investigation - PDSA, Special Cause Analysis, Root Cause Analysis
- Improve - Permanent Corrective Actions (PCA)
- Control - Sustain the gains and follow up
- Transportable - Share knowledge gained and PCA

An incident reporting database analysis was conducted at least twice per year to identify potential improvement projects or root cause analysis.

Figure 4: High-level Pareto Analysis of 2007/2008 database



Conclusion: 80% of reported events fell into medication-related and fall-related events.

Based on the incident reporting system analysis and interviews, near miss reporting was not currently part of the culture of FBH and was identified as an opportunity for improvement.

Planning and Recommendations - Based on the results of the patient safety assessment, the following recommendations were made to help FBH achieve their patient safety goals for 2009/2010.

The tools and methods described are based on Dr. Juran's principles of a quality management system and the success of other healthcare systems.

A. Quality and Patient Safety Infrastructure

The following are essential parts to the infrastructure to ensure oversight, accountability, and sustainability of quality improvement and patient safety initiatives.

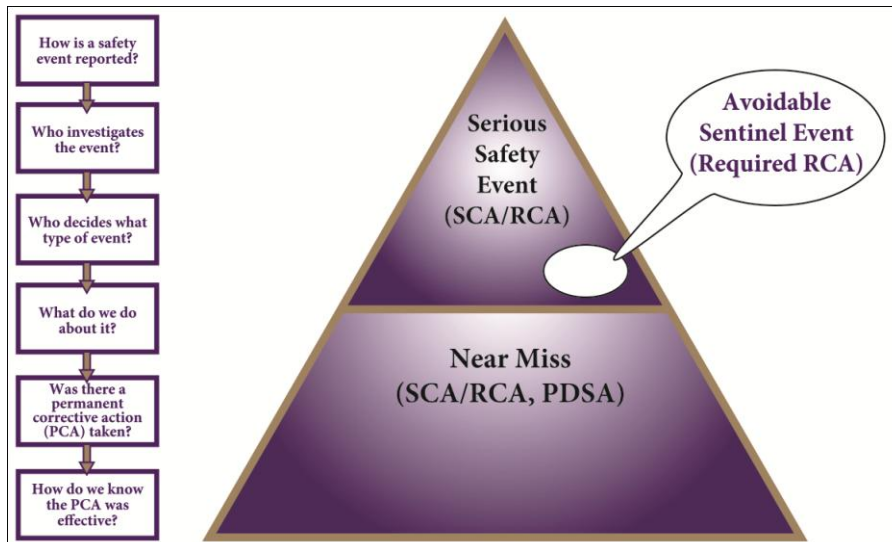
- Resources – System resources qualified to manage patient safety programs
- Policies and procedures – Quality and patient safety policies and procedures, which include incident reporting, event management, patient identification, and hand hygiene policies
- Taxonomy – Stratification and definitions of patient safety events
- Database development – Organization and reporting of data obtained from patient safety event investigations such as Root Cause and Special Cause Analysis

Addressing these essential parts for FBH relied on the following recommendations for the current policies:

- Incident reporting - Revise
- Event management - Revise
- RCA team - Revise
- SCA reporting - Create
- Physician and Nurse peer review - Revise
- Knowledge dissemination and disclosure - Create
- Request for information - No Change
- Committee charters - Create

To ensure improvement efforts gained the bandwidth for proactive improvement, the event management separated the definition of the event from the process improvement tool required to prevent recurrence. FBH used only RCA with one system resource to address patient safety events. In addition to event management policy revisions, Juran recommended RCA and SCA training to increase the capacity to address less complex and near miss events.

Figure 5: Event management and taxonomy of event recommendations and revisions



Quality and patient safety committee structures and membership revisions included the following roles as described in the committee charters:

- Patient Safety Steering Committee – System Level
 - Provides oversight of the patient safety plan and ensures a standard approach to implementation
 - Identifies and approves elements of patient safety training
 - Identifies and assigns ownership to remedy chronic system issues
 - Provides accountability and oversight to the Quality Councils and all patient safety and quality-related activities
- Quality Councils – Facility Level
 - Provides oversight for the implementation of the patient safety plan at the facility level
 - Provides accountability and oversight to patient safety at the facility level and quality-related activities
 - Ensures accountability for identifying root causes and action plans for RCA teams, SCA reports, and the safety coach program

The grassroots staff must change behaviors based on standardized expectations and rules, as well as actively participate in process improvement efforts in order to achieve breakthrough improvements in patient safety culture. In order to change behaviors, FBH agreed to standardize behavioral expectations and establish accountability using a training and accountability approach. Training included:

- Patient Safety Officer (PSO) training for all designated officers (2008)
- Team training for OB and Surgery (2008)
- RCA/SCA training to include mistake proofing for 45 people per year (2008 and beyond)

- Safety Coach Program and training (2008 and beyond)
- Patient Safety training for all FBH employees and physicians (2009 and beyond)
- “Just Culture” Accountability Model adoption

In order to carry out this aggressive and robust plan, the Patient Safety Champion and Chief Nursing Officer of the system worked with the Juran Patient Safety Experts on the project plan and timeline.

Improvements - To initiate the improvement phase, FBH trained 8 PSOs both at the system and regional levels, 65 leaders and staff in RCA and SCA, over 100 safety coaches, and over 7,000 employees in error prevention over a 12-month period in 2009. The hard points and application of the error prevention training comes from the behavior-based expectations and error prevention toolbox (See Figure 6). In addition to the training, FBH adopted global Red Rules for positive patient identification and proper hand hygiene. Red Rules only applied to the highest-risk activities and always placed ahead of productivity, revenue, or personal desire.

Definition: A Red Rule is a minimum standard associated with certain patient safety processes that MUST be met and requires verbatim compliance. A Red Rule should only be the highest-risk activities and should always be placed ahead of revenue, productivity, and personal desire.

Figure 6: FBH Behavior-Based Expectation and Error Prevention Toolbox for all Staff

EXPECTATIONS	TECHNIQUES (Toolbox)
1. Communicate Clearly	1. SBAR for handoffs 2. Repeat backs 3. Phonetic and numeric clarification
2. Personal Commitment to Safety	1. Adhere to policies, procedures, and <i>red rules</i> 2. Be alert and respond to high risk conditions 3. STOP when unsure
3. Attention to Details	1. Document in a thorough manner per time standard 2. Address Alerts Alarms 3. Stop Think Act Review

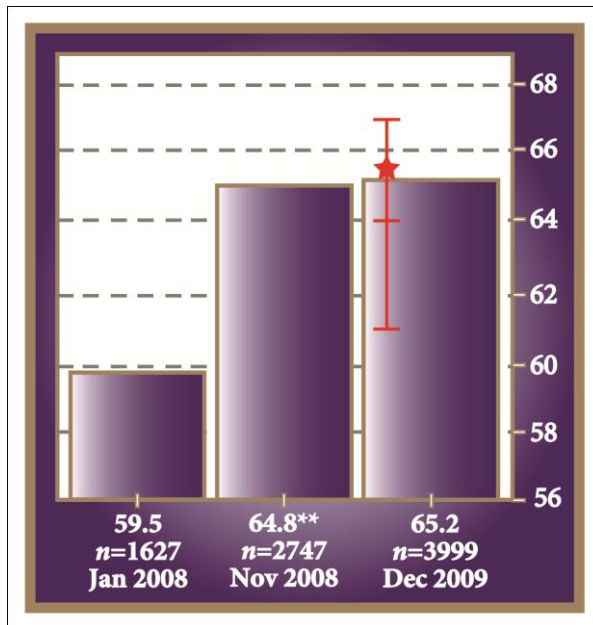
Control and Accountability: In order to avoid any program or initiative from being labeled a “flavor of the month” by staff, the Juran model includes robust control and accountability plans. Similar to any program or implementation, a stabilization period must be allowed before long-term results can be achieved and the success of the initiative can be validated. FBH agreed that programs focused on grassroots engagement and ownership were vital to an organization’s long-term sustainment and success. Beginning in late 2008 (regional facilities) and late 2009 and early 2010 (central facilities), the following control mechanisms were initiated:

- **Safety Coach Program** – The cornerstone for patient safety culture transformation that occurs at the grassroots level by providing real-time coaching for continuous

improvement. Safety coach programs provide real-time behavior-based monitoring, feedback, and data collection. Real-time behavior-based monitoring reduces both error precursors and serious safety events by transforming knowledge-based error prevention practices into skill-based patterns of behavior. The programs also provide data that track behavioral trends and human performance improvement.

- **Red Rule Performance** – In addition to the safety coach data supplied from real-time monitoring, a measurement system should be created to allow more objective reporting in control charts.
- **Accountability Model** – “Just Culture” was developed and utilized as part of the overall performance management system. In healthcare, very few human resource performance management systems provide a healthy mechanism for dealing with human error, especially those involved in serious safety events. Accountability systems should be fair, just, consistent, and equally applicable to all levels and professional groups of the organization. A non-punitive culture was established to ensure healthy incident reporting and to ensure corrective action and improvement activities occur.
- **Root Cause Analysis and Special Cause Analysis** – Used when error precursors are identified or near miss/serious safety events occur. Root cause analysis is a 30 to 45-day process that identified true root causes of events. Root causes must meet certain criteria and must provide correction actions to prevent recurrence. Because of resource constraints, root cause analysis teams are convened only under certain criteria and chartered by a senior executive Champion. Special Cause Analysis is a tool that is used by anyone to help identify apparent cause and subsequent remedial actions. SCA reports are generated in great numbers and are used for minor events and error precursors. Both root cause and special cause analysis reports generate data used for analysis purposes.
- **Global Communication Techniques** and the results of patient safety initiatives are used with purpose. FBH utilized both the employee newsletter and patient safety alerts that included root cause(s) and action plans to disseminate learning.
- **Leader Rounding** with purpose is vital to the sustainability of all patient safety initiatives. The mantra behind this concept is “you get what you inspect, not what you expect.” Rounding should always be purposeful and structured around the patient safety and behavior-based expectations defined for the organization. The purpose of rounding is to display management commitment to patient safety, uncover error precursors and chronic problems, obtain feedback from staff, and satisfy the 5:1 positive to negative feedback to staff. The 5:1 positive to negative feedback is a core competency for team leaders to ensure accountability to patient safety processes and behaviors.
- **Continuous and refresher training** on behavior-based expectations, the error prevention toolbox, and Red Rules included a multimedia approach. FBH used computer-based training, safety coach meetings, global communications, and podcasts.

Results: Patient Safety Culture Survey - Feel Better Hospital improved their patient safety culture survey scores from 59.5 to 65.2 while increasing the number of participants.



Error Prevention Training:	
Training Type:	Participants:
Live Training	620
Computer Based Training (CBT)	6,127
Leader CBT	283
Basic CBT	1,051
Clinical CBT	1,396
Non-Clinical CBT	1,619
Nursing CBT	1,778
Total:	6,747
Safety Coaches trained = 130	

Appendix: Red Rules Example

A. Patient Safety Officer Training Curriculum (4 days)

Objectives of the Program

1. Provide an understanding of the basic principles of patient safety.
2. Provide an understanding of achieving success by implementing an effective patient safety infrastructure.
3. Learn the basics of how serious safety events occur and the basics of human performance concepts.
4. Introduce process improvement tools used in patient safety and learn how to perform a Special Cause Analysis.
5. Introduce accountability systems in healthcare.

B. Root Cause and Special Cause Analysis Training Curriculum (4 days)

Objectives of the Program

1. Provide a system to manage patient safety events, ensuring a consistent methodology for identifying and managing events.
2. Transfer knowledge on how the healthcare system fails and how serious safety events occur.
3. Teach steps to objectively identify the root causes of serious safety events.
4. Enable participants to effectively identify permanent corrective actions to prevent recurrence of serious safety events.
5. Provide the means of sustaining breakthrough improvements through robust control and follow-up plans.
6. Apply the use of the proper tools to solve sporadic problems.
7. Introduce accountability systems in healthcare.

C. Red Rules Example

Proper Hand Hygiene: “Gel in and gel out”

- Before and after rendering any patient care, appropriate hand hygiene will be adhered to. Activities related to hand hygiene include:
 - Patient care
 - Donning and removing gloves
 - Eating
 - Using the restroom
 - Contact with any body fluids
 - Contact with patient equipment

Positive Patient Identification: Before rendering any patient care, you will positively identify the patient using 2 sources of information (patient name and date of birth), neither of which can be the patient’s room.

- Patient identification is embedded in many critical procedures such as:
 - Right patient receives the right medication using the 5 rights as written in the policy (right patient, right medication, right route, right dose, right time)
 - Right patient has the right procedure in the right location (site)
 - Right patient has specimen labeled correctly by verifying right specimen, right label, right patient (name, date of birth, medical record number)
 - Right patient receives the right blood by verifying name, date of birth, and medical record number

FOR MORE INFORMATION:

For more information on how we can help your organization attain results, please contact us at 203.267.3445 or visit us on the web at www.juran.com.