Transformational Patient Care Redesign Project

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Summary

In 2008–2009, Providence Holy Cross Medical Center, a 340-bed hospital located in Mission Hills, California embarked upon an innovative Transformational Patient Care Redesign Project (also known as the 4A Project, A4 is one of the hospitals telemetry units). The purpose of this project was to design reliable processes of care that assure consistent and timely delivery of evidence-based patient care each and every time, thus improving patient satisfaction and outcomes. Included in the project design was a process of team-based care, metrics-driven management, reduced cycle times, increased stakeholder loyalty and satisfaction, and an enhanced learning organization. Improvement and change strategies implemented within this project were Lean, Six Sigma and Change Acceleration; statistical methodology coupled with change management and facilitation techniques. Prioritized short-term initiatives were identified within the project scope, and were mainly focusing on quality-of-care delivery, the discharge process and coordination of care. While many health care improvement projects target one (or very few) Critical to Quality (CTQ) goals, the 4A project had a multifaceted approach, and focused on several operational and clinical objectives at the same time. Outcome and process measures included:

- Core measure compliance
- Patient satisfaction
- Nurse and physician satisfaction
- Climate of safety
- Reduction in discharge process time
- Reduction in the average length of stay
- Improvement on the nurse sensitive indicators (pain management, patient falls and hospital-acquired pressure ulcers.)

Improvement targets were met for all measures. Physician and Nurse Satisfaction exceeded targets.

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Strategy and Roadmap

Lean and Sigma was selected as the strategic road map to achieve and maintain project’s goals and objectives. While Lean and Six Sigma enabled the project team to systematically evaluate and redesign processes, it was clear the hospital’s employees and physicians will be the ultimate users of this project’s outcomes and their input, support and engagement were the most important factors for successful and sustainable results. Also as a medical center, patients (and to some extent their families) are key recipients of the service, and should be considered the “Customer.” Therefore, the analysis of Customer Requirements was mainly focused on patients’ requirements, needs and preferences. As one of the cultural characteristics of the hospital, this “Patient-Centered approach” played a significant role in the project and its implementation.

Other key strategies and tactics to achieve the project’s goal included:

- Pilot site implementation with translation to other units
- Variation reduction within processes
- Structured, phased approach built around rigorous metrics
- Robust Control phase and tools such as dashboards to sustain improvements
- Implementation of focus groups and surveys with physicians and staff to gather input on the work environment
- Implementation of CAP (Change Acceleration Process) to engage staff and physicians and develop a shared vision
- Creation of high-level flowcharts were created for work flow process from patient admission to 4A from the Emergency Room and spaghetti diagrams of nurse workflow on 4A
- Deployed Lean and Six Sigma methodologies to provide the structure needed for objective and evaluation of opportunities, and to deliver sustainable solutions for improving performance

Six Sigma was introduced to the health care in mid 1990s as a business strategy, and follows the DMAIC methodology (Define, Measure, Analyze, Improve and Control) to improve existing business processes. A summary of how Transformational Patient Care Redesign Project benefited from DMAIC methodology is provided below.

Define Phase

Voice of the Customer (VOC) from the staff, physician and a Press Ganey survey indicated that the
structure and processes relative to Quality of Care (specifically on night shifts), communication, patient’s perception of caring and compassion, and coordination of care offered several opportunities for improvement. Also VOC indicated the discharge process took too long and negatively impacted throughput initiatives. Coordination of Care was identified as another area for opportunity for improvement.

Changes to patient’s schedule for the day are inevitable (Trauma Center, ED, changing priorities, etc.) However, there are many opportunities to minimize unnecessary changes by improving the communication process to the patient and family and improving the communication process among the internal “care team.” The “Coordination of Care” was scoped to scheduling practices. Due to major organizational IT changes, the project was redefined to improve communication processes to the patient and family.

**Measurement Phase**

Patient/family focus groups and physician focus groups utilizing the World Café Methodology and RN/ MD Surveys (including IHI Safety Survey and Press Ganey) were all used to measure a variety of care delivery processes and perceptions. Also, several internal metrics were implemented to measure the timeliness of the hospital’s discharge process.

**Analyze Phase**

- Several root cause analysis were conducted to determine what contributes to problems, issues and opportunities for improvement identified in the project charter (Define Phase). Some of key potential root causes identified included:
  - Physicians felt that nurses lacked knowledge about the patient condition when rounding
  - Shift-to-shift report did not cover necessary information
  - Use of the portable phones was not effective for timely communication
  - Management was not visible
  - Physical working environment was inadequate for ease of practice (safety issues)
  - Patients felt that they did not get enough information about their condition or plan for the day
  - Pain was not adequately controlled
  - The “caring component” of patient care was lacking
• Discharge process was broken down into: discharge planning and discharge activities themselves. It was discovered that coordination of care around the discharge planning needed improvement. Lack of timely and effective discharge planning process among all the caregivers required a standard operating procedure. It was decided that a structured list of key activities (checklist) for each phase will be a significant help to the discharge team to ensure that all key steps are followed in a timely manner.

• A Workout™ was performed, including all disciplines with the topic of “coordination of care.” As a result of the Workout™, several root cause and improvement ideas were brainstormed and a few were selected to be implemented (details in the improve sections). A team was formed including representatives from nursing and ancillary services (Physical Therapy and Respiratory Therapy) to decide on a process to keep the patient and the family (as well as other caregivers) informed about the care plan and progress.

**Improvement Phase**

• Specific improvements included:
  
  o Implementation of the RN/MD collaborative to create a forum for informal discussion “Little bit of Science, Little bit of Caring.”
  
  o Implementation of new process for shift-to-shift report, including patient rounding.
  
  o Care boards installed to assist with communications to patient, family and physicians.
  
  o Unit-based pharmacist incorporated into the care model.
  
  o Manager rounding scheduled to coincide with physician rounding.
  
  o New role of the Clinical Nurse Leader (CNL) introduced to provide a “safety net” for quality oversight, rounding with physicians and to provide consistency of care Monday thru Friday.
  
  o Rapid rounding with Case Manager/CNL introduced.
  
  o Safety huddles implemented two times a shift.
  
  o Physical redesign of unit maintaining HIPAA compliance, including better access to computers, relocation of phones, redesign of supply cupboards for staff, management redesign, implemented the Care Channel – a guided imagery TV program, and better organization/access of medical record forms.
• New rapid rounding model was implemented between discharge planners, clinical nurse leader and the staff nurse, utilizing the discharge checklist. The discharge checklist was revised several times to ensure that it captured all discharge key elements and was also easy to use. The checklist was finally replaced by an electronic screen which eliminated the need for paper copy. Also, implementation of the care board identified discharge needs and priorities.

• Care boards were implemented on the unit. Procedure was developed to define care board update frequency and responsibility. Audits were conducted to ensure implementation of care boards by all disciplines. An AWARIX (a hospital communication solution tool) icon was designed and is currently being used by the dialysis and other disciplines. The role of CNL was implemented to help to coordinate and collaborate within the interdisciplinary team.

• It was also decided that three of the proposed improvements need to be followed in the long term: 1.) Scheduling of tests/procedures and 2.) Study availability of tests/procedures after hours (evening and weekend) and 3.) Dialysis scheduling and discharge.

**Control Phase**

Control plans were designed and implemented for all applicable initiatives within the scope of the project. Control plans define the frequency, method and responsibility of ongoing evaluations.

Nurse Manager will remain as the process owner and will periodically examine the implementation and effectiveness of the process on a bi-monthly basis.

Control plans are in place to define the frequency and responsibility for care-board audits. The process is currently owned by the Nurse Manager.

Table below summarizes key goals of the project, aligned with strategy and tactics used to achieve and sustain them:
Results and Achievements

The following patient benefits resulted from the 4A Redesign process:

- 100% of heart failure and pneumonia core measure patients received appropriate care.
- The number of falls decreased by 59%, from 32 in 2008 to 13 in 2009.
- The prevalence rate of hospital-acquired pressure ulcers on 4A decreased.
- The average length of stay for all DRGs on 4A decreased by 17% or by 0.82 days.
- Patient discharge time decreased by 23%.
Communication and collaboration aspects of the redesign project made a significant impact on physician and nurse scores related to the climate of safety, improved combined scores from 79% to 97%, and overall satisfaction for physicians from 68% to 97% and nurses 60% to 78%.

Two areas of cost savings for 4A that are linked to the redesign process are: 1) decreased length of stay, and 2) decreased employee turnover.

**Lessons Learned**

- A project that involves a behavior and/or culture change requires medium-/long-term time of one to three years to achieve the desired results. Along the way, frequent and clear communication from the top leadership about the project keeps the team motivated and encouraged to persevere when they are faced with the challenges of change. Active support of key stakeholders is imperative.
• In certain stages of the project, the project team felt that too many predetermined boundaries, constraints and specific objectives were imposed (in most cases self-imposed), which inhibited the process for innovative thinking. In order to encourage intelligent risk taking, specific inclusion and exclusion of the project charter should be kept to the minimum necessary level.

• The goal of redesigning a model of the care delivery process involves an organizational approach to change of process/structure. Core staffing that remains throughout the project is necessary for team development. It is also important to remember that too many process changes being implemented at one time exhausts staff.

• Not all good ideas generated by “brain storm” sessions will get to the testing stage and fewer will make it through to implementation (in this case 2-3% of ideas generated were fully implemented). Patience, perseverance, and a reminder of the traditional rules of resistance to change need to be recognized.

• Don’t let people kill the idea on the first try - get them to understand the purpose of a pilot and incorporate their suggestions for improvement.

The results described in this article were achieved through collaborative work of more than 50 physicians, nurses, ancillary services and other team members at the hospital.

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