

Surgical Care Improvement Project (SCIP): Improve Compliance to the SCIP Bundle

Problem: Based on first quarter 2009 SCIP performance data, the SCIP composite score was 96.1%, which was below the target of 100%. Not meeting the target may result in potential post-operative infections for patients and loss of reimbursement for care provided.

Project: A team was formed to conduct a Six Sigma DMAIC project to understand root causes of non-compliance to the SCIP bundle components. The project team consisted of multiple disciplines and departments responsible for surgical care. The goal of the project was to achieve 100% compliance in all existing and new SCIP bundle components.

Improve Process:

Define - In order to understand the needs of customers and stakeholders, team members gathered the voice of the customer (VOC) from outpatient surgery, O.R. staff, inpatient units, the pharmacy, and physicians through surveys, interviews, and observations. The resulting comments were grouped into key issues and translated into the following measurable critical-to-quality requirements (CTQs):

1. 100% of SCIP patients identified successfully
2. 100% of surgical charts flagged
3. 100% of staff aware of SCIP components
4. 100% of pre-op orders written
5. Add SCIP to pre-op chart preparation form/OP checklist
6. Antibiotics available 100% of the time
7. Hand-offs to include SCIP components
8. Hot charts flagged for antibiotics discontinued
9. Increased use of standard protocol

Measure - The main deliverable from the Measure Phase was the understanding of the current state condition. After walking the process and interviewing stakeholders, the project team created a current state process map. The process map provided a visual representation of how the individual departments satisfied the individual SCIP components. Swim lane diagrams identified the number of hand-offs and opportunities for defects and errors throughout the process. The project team created a data-collection plan, which described the questions to be answered and the data that needed to be collected in order to define baseline performance.

Analyze - The main deliverable of the Analyze Phase was the identification of the vital few Xs or root causes that prohibit 100% compliance. The team used tools such as cause-effect diagrams and Pareto Analysis to understand where potential causes existed and analyzed the causes using 5 WHY Analysis.

The vital few Xs for improving SCIP compliance included:

1. Lack of training and education
2. Inadequate documentation
3. Lack of standardized process and unclear expectations

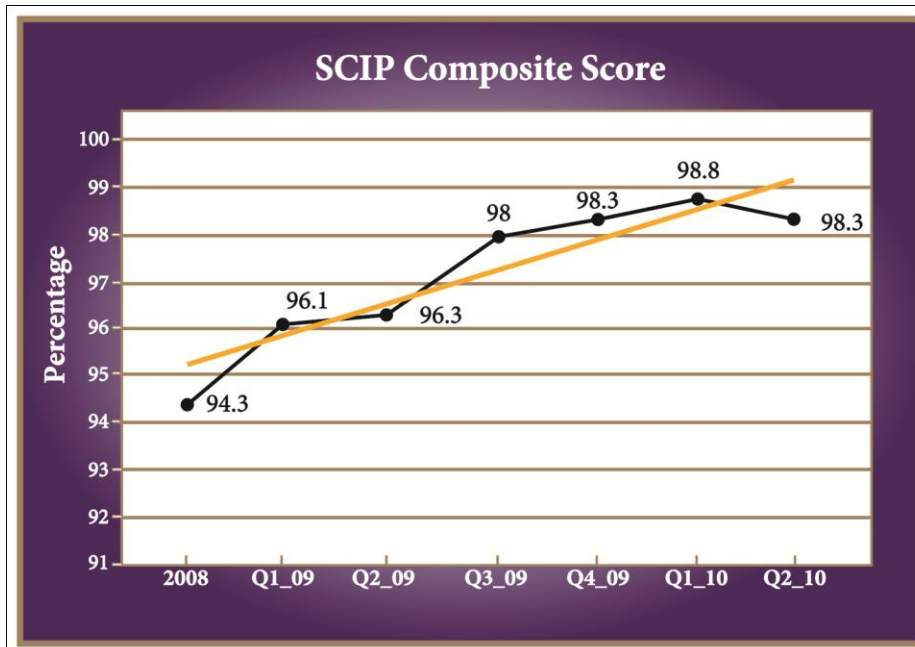
4. Variation in antibiotic management
5. Surgeon variation
6. Order sheet not used/antibiotic start time
7. Lack of standardized orders for blood-glucose management

Improve - The project team performed best practice research and brainstormed potential solutions to the vital few Xs and created a future state process map. Once the list of solutions were affinitized and prioritized using tools such as an impact/cost matrix and risk assessment, the team created an implementation plan and communication/training plan. The implementation plan included long-term projects, rapid improvement events (RIE), and “just do it” projects. The improvements selected included the following:

1. Electronically tag patients as SCIP based on the procedure code in the scheduling system.
2. Use colored folders for charts and colored armbands.
3. Draw a colored line over patient stickers.
4. Place Bear Huggers on all patients in OR.
5. Educate PACU nurses to make sure antibiotic start time is on post-op order sheets.
6. Standardize post-op order sheet to include antibiotic and Lovenox order start time based on initial antibiotic administration time.
7. Add specific data box requirements for antibiotic name, route, time, and SCIP on anesthesia record.
8. Create medical staff approved order sets for antibiotic selection.
9. Revise perioperative records to reflect warming blankets.
10. Investigate par levels and use of Diebold as back up for SCIP drugs. Deliver SCIP drugs directly to holding area.
11. Include in SCIP binder process maps, standard worksheets, procedure list, SCIP description and indicators, violation reporting and chain of command procedure and quick reference guide by case.
12. Create training plan for all stakeholders on new process and SCIP components and introduce new accountability model.

Control - The purpose of the control plan was to maintain process changes and monitor results. The project team decided to create a dual-purpose SCIP flow sheet that will travel with the patient as part of the chart. The flow sheet will collect real-time data on SCIP compliance, as well as serve as a checklist to ensure the patient does not move forward in the process until the SCIP component is satisfied. As part of the control plan, the process owner will report-back status updates and control plan data to the project Champion and leadership team to ensure sustainability and long-term results.

Results: The results obtained as of 4th quarter discharges showed improvements in all of the SCIP bundle components except for antibiotic selection. As part of the control plan, non-compliance was because of human error and coaching was performed as part of the investigation and follow-up of each error. The results obtained as of 4th quarter discharges were as follows:



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