

**Quest for Excellence**

**Award Application**

**Bergan Mercy Medical Center**

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**Topic: Surgical Care Improvement Project**

# **Quest for Excellence**

## **Surgical Care Improvement Project**

### **Alegent Health - Bergan Mercy Medical Center**

#### Overview: Leadership, Planning, and Human Resources:

Alegent Health leadership guides and sustains our organization by developing, establishing, and communicating its vision, strategic priorities, values, and performance expectations. Each of these components focuses on patients, quality improvement, learning, and managing for innovation.

The vision statement says the organization seeks to "Pioneer exceptional quality through compassionate, collaborative, health services that measurably improve the lives of those we serve and those who serve." Of note is the word "pioneer". Alegent Health is not satisfied with the status quo. The organization does not strive to follow well, but instead, to lead with purpose. The strategic priority mandate for Quality is to "Differentiate our services by creating and delivering value through measurable, evidence-based clinical excellence, operational efficiency, and outstanding experience." Once established, these components cascade to each Alegent Health facility, service line, and unit so that each can develop targeted goals and performance measures for strategic priority accomplishment and the resultant vision achievement.

Quality is but one of the strategic initiatives emphasized at Bergan Mercy Medical Center (BMMC), and it is an integral part of the campuses overall planning. The Operational Plan also addresses Relationships, Continuum, Growth, and Stewardship. For continuity, Alegent Health

leadership developed Strategic Initiatives and Measurement Goals for Quality, and campus-level leaders have the responsibility for achieving each Strategic Initiative. The Quality strategic initiatives and measures are:

- Do No Harm and Improve Outcomes – Implement the quality plan, reduce clinical variation, and improve care coordination. One initiative metric is to achieve quality and safety composite scores. The safety composite scores include Surgical Care Improvement Project (SCIP) measures.
- Process Innovation – Develop a culture of continuous process improvement through Lean processes and techniques. Expand process innovation skills and capabilities. Leverage networking opportunities to identify and share best practices.
- Strategic Performance Measures for Quality include a 96% Value Composite goal– an amalgam of scores that includes quality, safety, and efficiency measures. SCIP is a component of the safety measures, as are processes related to preventing hospital-acquired conditions. Performance is assessed and reported weekly and monthly to operations directors, physicians, and campus leadership.

The Alegent Health Quality Plan is a comprehensive, system-wide outline that includes initiatives, indicators, and targets for each individual campus. Key initiatives for FY12 include the Value Composite (including SCIP), National Patient Safety Goals, Nursing Sensitive Indicators, Mortality, and initiatives specific to various service lines and patient care settings. Quality goals are included in department performance measures and form the basis for department leader and staff individual performance measures. Organization leadership sets the

standard by including Quality goals in their individual performance measures. These are shared with direct reports, setting the expectation for meeting these performance measures and holding them accountable for individual, department, and organizational Quality goals.

Bergan selected the Surgical Care Improvement Project with a focus on inpatient post-surgical care. The specific focus of the project included SCIP 3 (prophylactic antibiotics discontinued within 24 hours after surgery end time), SCIP 9 (urinary catheter removed on post-operative day 1 or day 2), SCIP 10 (peri-operative temperature management), SCIP VTE 1 (recommended prophylaxis ordered), and SCIP VTE 2 (recommended prophylaxis received).

Early in 2011, BMMC evaluated its overall SCIP performance for a two-year period. While several changes positively impacted care and improved overall SCIP performance, postoperative management of prophylactic antibiotic, temperature, urinary catheter, and VTE prophylaxis did not improve significantly. In fact, SCIP fallouts only marginally decreased. Thus, an opportunity existed to improve the reliability of surgical patient, evidence-based care, beginning with inpatient admission from the surgery suite and continuing through postoperative days one and two.

Key stakeholders were patients, nursing staff, physicians, and quality improvement staff. A change in philosophy occurred: identification of “SCIP patients” ceased, and ALL surgical patients benefited as “SCIP patients” postoperatively through receipt of evidence-based care through a "leaner" process. A pilot program was planned, implemented, and evaluated with inpatient unit nursing staff involvement. SCIP failures were significantly reduced, and evidence-based care is now provided to an expanded patient population with greater reliability and

efficiency. The result is improved patient safety and increased nursing satisfaction. Use of Alegent Health evidence-based leadership principles will sustain the new process.

This issue has importance to our organization and patients in several ways. SCIP measure compliance means better care for all surgical patients, not just those who meet the inclusion criteria. Application of these measures to this broader population will reduce complications and improve outcomes. Nursing and physician satisfaction improves because of higher quality and safer care provided, along with associated efficiency gains. Improved SCIP adherence translates into better performance as measured by Bergan's Value Composite, which is a strategic and quality initiative. This higher performance level also translates into improved reimbursement from the Center for Medicare and Medicaid Services' Value Based Purchasing program. Simply put, the best outcomes are rewarded, which serves the interests of the hospital, but most importantly, the patients.

Methods: Patient and/or Community Focus.

The Alegent 40 Committee, a group of leaders and educators from inpatient nursing units, pharmacy, surgical services, and quality improvement staff that is focused on effective core measure compliance, identified this opportunity for improvement. A data review revealed overall SCIP performance and individual measure fallouts had not improved significantly from FY10 to FY11. The approach selected was to change the SCIP focus from defined SCIP patients to all surgical patients. The intervention timeframe was March through July of 2011. The proposed pilot project was presented to the Quality Council in March and to the Medical

Executive Committee in April in order to obtain broad-based leadership and physician support. Both bodies actively supported launching the pilot in an effort to improve surgical patient care.

An inpatient unit with a wide variety of clinical conditions and moderate surgical patient volumes was selected for the pilot project. A process improvement team, with representatives from the inpatient unit and quality improvement department, designed the proposed process to be tested. The SCIP checklist was revised to be simpler and leaner. A staff survey was completed prior to pilot launch on April 6, 2011. Nursing staff were trained on the new process, and performance expectations were developed and communicated. The change was tested for four weeks, with some tweaking of the process and revisions to the checklist along the way. SCIP performance metrics were reviewed and evaluated, and a post-pilot staff survey was conducted. In May and June, the pilot was expanded to include three additional units. Nurses from these units were actively engaged in evaluating results and proposing additional changes to the process and forms. In July, results were again evaluated and final revisions adopted. The new SCIP process is currently being implemented on all inpatient units at Bergan Mercy Medical Center.

The Quality Council requested and received updates on the progress and outcomes of the project. One nursing leader saw the improvements on the units participating in the pilot and requested to be included in the project earlier than planned. She said, “It obviously works, and we want it for our patients now.”

#### Results & Lessons Learned: Process Management and Organizational Performance Results:

The process improvement method selected was FOCUS-PDCA, and several PDCA

cycles were used during the pilot project. Lean principles were also utilized in design of the new process and checklist.

The major positive impact that resulted from this initiative has been a significant reduction in failures of SCIP measures. There have been no SCIP measure failures during the time period subsequent to initiating the pilot (three failures occurred during the first week of the pilot). These results demonstrate improved reliability in providing safe, evidence-based care for our surgical patients. The following table depicts the fallout reductions. A graphic representation of this information is attached.

SCIP “Fallouts”

Measure	FY10	FY11	FY12 (YTD)*
SCIP-3 (Abx d/c within 24 h)	36	23	0
SCIP-9 (Urinary cath removal)	37	31	0
SCIP-10 (Temp management)	3	11	1**
SCIP –VTE1 (prophylaxis ord)	9	4	1**
SCIP–VTE-2 (prophylaxis adm)	12	5	1**
FY data runs from April 1 – March 30.			
*FY12(YTD)includes data from April 1, 2011 – August 26, 2011.			
** Fallouts (failure of the measure) occurred during the first week of pilot.			

Overall SCIP measure performance improvement also resulted from this intervention, as demonstrated by the table below. FY data runs from April 1 – March 30 for each year. FY12 (YTD) includes data from April 1 – August 26, 2011. A chart with this information is also attached.

SCIP Performance

Measure	FY10	FY11	FY12(YTD)
SCIP-3 (Abx d/c within 24 h)	97.2%	98.0%	100%
SCIP-9 (Urinary cath removal)	92.2%	96.2%	100%
SCIP-10 (Temp management)	99.6%	99.1%	99.4%
SCIP –VTE1 (prophylaxis ord)	95.6%	98.4%	99.1%
SCIP–VTE-2 (prophylaxis adm)	94.7%	98.0%	99.1%

A staff perception survey was conducted pre- and post-pilot. Although there was not an abundance of data, the surveys helped to identify the problems and reinforce the results of the pilot. There was an overall shift in responses from “not satisfied” to “mostly or very satisfied” when comparing the pre-and post-pilot responses. The most significant finding was the difficulty in identifying SCIP patients and the reliance on the charge nurse to provide direction in caring for SCIP patients. Pre-pilot comments included: “Never know what surgical procedures require SCIP”; “Hard to determine who is SCIP w/out stopping and researching it”; and “If the orange sheet is on the chart, I know they are SCIP, otherwise I don’t”. Participating improvement team staff reported positive nursing feedback about the improved ease and efficiency of the new process.

There were no major barriers encountered initiating this change. All leadership levels supported this effort, and staff was actively engaged in the process. In the future, more front-line staff participation will be considered in the early, project-planning phases. Only staff from the pilot unit participated initially, but when staff from other units was added, group output improved because of additional creative and innovative inputs. The momentum gains validated that there truly was “safety in numbers.” Finally, the nursing perceptions survey revealed improved nursing staff satisfaction.

The intervention sustainability is high because of front-line staff engagement. The same is true for its replication ability. The process was “hardwired” using evidence-based leadership principles. The basic FOCUS-PDCA methodology guided the team throughout the improvement process. This particular methodology information is readily available to others, and the process and checklist could be used at any hospital. Bergan is also considering a similar project to assess our processes and checklists in an effort to improve care for stroke patients.

Attachments include:

- Charts depicting fallout reduction and post-pilot SCIP measure performance improvement.
- Current SCIP process checklist - “Checklist for SCIP Excellence” (printed as a 2-sided sheet on orange-colored paper).
- Revised SCIP process checklist - “SCIP Post-op Checklist”(printed as 2-sided sheet).

**Checklist for SCIP Excellence  
(DO NOT SCAN)**

Patient Label

**Date:** \_\_\_\_\_ **Incision Time:** \_\_\_\_\_ **Anesthesia End Time:** \_\_\_\_\_

<input type="checkbox"/> <b>Surgical site hair removed appropriately.</b> Clipped <input type="checkbox"/> Depilatory <input type="checkbox"/> * Shaved <input type="checkbox"/> <i>* Hair removal by razor okay for scrotal area OR from scalp after a traumatic head injury</i>	<b>Initials</b> ____
<input type="checkbox"/> <b>Prophylactic Antibiotic selection consistent with current recommendation.</b> <i>See reverse side for recommended antibiotics</i> <input type="checkbox"/> <b>N/A</b>	<b>Initials</b> ____
<input type="checkbox"/> <b>Prophylactic Antibiotic started within 1 hour of incision.</b> (Vancomycin or Quinolones within two hours of incision time) <i>*this protocol now applies to both inpatients &amp; outpatients (see Tables 6.0-6.7 for outpatient inclusion)</i> <p style="text-align: right;"><b>Time antibiotic started:</b> _____</p> <input type="checkbox"/> <b>Re-dose if antibiotic given ≥ 60 minutes prior to transition from laparoscopic to open surgery</b>	<b>Initials</b> ____
<input type="checkbox"/> <b>Patient met criteria for perioperative beta blocker.</b> <input type="checkbox"/> <b>Patient on beta blocker prior to admission &amp; dosed within 24 hours of surgery start time.</b> <input type="checkbox"/> <b>Pre-op Beta Blocker ordered by Anesthesia.</b> <input type="checkbox"/> <b>Pre-op Beta Blocker not ordered by Anesthesia but contraindications documented.</b> <input type="checkbox"/> <b>N/A for beta blocker protocol.</b>	<b>Initials</b> ____
<input type="checkbox"/> <b>ALL surgery patients:</b> Recorded body temperature greater than or equal to 36 <sup>0</sup> C within 30 minutes immediately prior to or 15 minutes after the Anesthesia End Time, (n/a if intentional hypothermia is required) or <input type="checkbox"/> <b>Active warming (forced-air or warm water garments)</b> used during the intraoperative period between Anesthesia Start Time and Anesthesia End Time.	<b>Initials</b> ____
<input type="checkbox"/> <b>Appropriate VTE prophylaxis (mechanical or pharmaceutical) ordered and started either 24 hours prior to anesthesia start time or within 24 hours after anesthesia end time.</b> <i>*see reverse side for recommended interventions.</i> <input type="checkbox"/> <b>"Bleeding risk" documented by MD/PA/APRN</b>	<b>Initials</b> ____
<input type="checkbox"/> <b>Antibiotic DC'd within 24 hrs. of anesthesia end time (Cardiac surgery within 48 hours).</b> <i>*If antibiotics are ordered for more than 24 hours (more than 48 hours for cardiac), the MD/PA/APRN must document an Infection exists. If no documentation, contact Manager or House Supervisor.</i>	<b>Initials</b> ____
<input type="checkbox"/> <b>Cardiac Surgery Patients have controlled 6 a.m. Blood Glucose (below or equal to 200mg/dL) on postoperative day 1 and 2</b> <i>*with the anesthesia end date being day zero</i>	<b>Initials</b> ____
<input type="checkbox"/> <b>Urinary catheter removed by midnight of post-op day two with day of surgery as Postop Day 0..</b> <i>*EXCLUSIONS: urological, gynecological, or perineal surgeries; documentation of indwelling catheter prior to surgery; and/or documentation of reason for continuing urinary catheterization</i>	<b>Initials</b> ____
	<b>Initials</b> ____

**PROPHYLACTIC ANTIBIOTIC REGIMEN  
(Effective April 1, 2010)**

**\* Documentation of Infection prior to anesthesia excludes patient from SCIP antibiotic measures\***

Cardiac, Hip/Knee Arthroplasty (revisions not included), Vascular, & other Major Surgeries (see Table 5.25 for exemptions)	Bowel/Colon	Hysterectomy
<p><b>Cefazolin (1) or Cefuroxime (2)</b></p> <p>or if <u>beta-lactam allergy</u> is documented, either of the following is appropriate: <b>Vancomycin (3) or Clindamycin (4)</b></p> <p>or: if other reasons for using vancomycin are documented by an MD/APN/PA, Infection Prevention Specialist or Pharmacist the following is also appropriate: <b>Vancomycin (3)</b></p>	<p><b>Cefotetan (5), Cefoxitin (6), Ertapenam (12), or Ampicillin/Sulbactam (7)</b></p> <p>or <b>Cefazolin (1) + Metronidazole (8)</b> or <b>Cefuroxime (2) + Metronidazole (8)</b></p> <p>or if <u>beta-lactam allergy</u> is documented, the following combinations are also appropriate:</p> <p><b>Clindamycin (4) + Aminoglycoside (9), Clindamycin (4) + Quinolone* (10) Clindamycin (4) + Aztreonam (11) Metronidazole (8) + Aminoglycoside (9) Metronidazole (8) + Quinolone* (10)</b></p>	<p><b>Cefotetan (5), Cefazolin (1), Cefoxitin (6), Cefuroxime (2), or Ampicillin/Sulbactam (7)</b></p> <p>or-- if <u>beta lactam allergy</u> is documented, the following are also appropriate:</p> <p><b>Clindamycin (4) + Aminoglycoside (9), or Clindamycin (4) + Quinolone* (10) or Clindamycin (4) + Aztreonam (11) or Metronidazole (8) + Aminoglycoside(9) or Metronidazole (8) + Quinolone* (10)</b></p>
<p><b>(1) Cefazolin</b> = Ancef, Kefzol, Zolicef <b>(2) Cefuroxime</b> = Cefitin, Kefurox, Zinacef <b>(3) Vancomycin</b> = Vancocin, Vancoled, Lyphocin <b>(4) Clindamycin</b> = Cleocin <b>(5) Cefotetan</b>= Cefotan <b>(6) Cefoxitin</b> = Mefoxin <b>(7) Ampicillin/Sulbactam</b> = Unasyn <b>(8) Metronidazole</b> = Flagyl, Metizol, Protostat</p>		<p><b>(9) Aminoglycoside</b>= Gentamicin (Garamycin, Genticin, G-Mycin), Tobramycin (Nebcin, Tobra), Amikacin (Amikin) <b>(10) Quinolone</b> = Levofloxacin (Levaquin) *<b>Lakeside formulary-other quinolones only available by request</b>, Ciprofloxacin (Cipro, Ciloxan), Moxifloxacin (Avelox), <b>(11) Aztreonam</b> = Azactam <b>(12) Ertapenam</b>= <b>Invanz (single dose recommended, but # doses won't affect measure results)</b></p>

**VTE PROPHYLAXIS FOR SURGERY**

In each category below, any **one** of the listed recommended VTE prophylaxis options is acceptable.

Surgery Type	<u>Without</u> bleeding risk or neuraxial (spinal/epidural) anesthesia	<u>With</u> bleeding risk or neuraxial (spinal/epidural) anesthesia
<b>General, Bowel/Colon and other Major surgery</b>	<ul style="list-style-type: none"> <li>▪ LDUH (Low Dose Unfractionated heparin, given subq)</li> <li>▪ LMWH (Lovenox) Low Molecular Weight Heparin</li> <li>▪ Factor Xa Inhibitor (Arixtra-not formulary)</li> <li>▪ Oral Factor Xa Inhibitor (Rivaroxaban)</li> </ul>	<ul style="list-style-type: none"> <li>▪ LDUH (Heparin) or LMWH (Lovenox)</li> <li>▪ IPC (Intermittent pneumatic compression devices- Sequential TEDS, leg pumpers, DVT boots –calf/thigh)</li> <li>▪ GCS (Graduated compression stockings- TED hose, elastic support hose)</li> <li>▪ Factor Xa Inhibitor (Arixtra-not formulary)</li> </ul>
<b>GYN/ Hysterectomy</b>	<ul style="list-style-type: none"> <li>▪ LDUH (Heparin) or LMWH (Lovenox)</li> <li>▪ Factor Xa Inhibitor (Arixtra-not formulary)</li> <li>▪ IPC (Intermittent pneumatic compression devices- Sequential TEDS, leg pumpers, DVT boots –calf/thigh)</li> </ul>	Same
<b>Elective Total Knee Replacement and Revisions</b>	<ul style="list-style-type: none"> <li>▪ LMWH (Lovenox), Factor Xa Inhibitor (Arixtra-not formulary) or Warfarin (Coumadin)</li> <li>▪ IPC (Intermittent pneumatic compression devices- Sequential TEDS, leg pumpers, DVT boots –calf/thigh venous foot pump)</li> </ul>	Same
<b>Elective Total Hip Replacement/ Revisions, and Hip Fracture</b>	<ul style="list-style-type: none"> <li>▪ LMWH (Lovenox)</li> <li>▪ Factor Xa Inhibitor (Arixtra-not formulary, Warfarin (Coumadin)</li> <li>▪ <b>LDUH (Heparin for hip fracture only)</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ LMWH (Lovenox), Factor Xa Inhibitor (Arixtra-not formulary), or Warfarin (Coumadin)</li> <li>▪ IPC (Intermittent pneumatic compression devices-Sequential TEDS, Venous foot pumps)</li> <li>▪ LDUH (<b>Heparin for hip fracture only</b>)</li> <li>▪ GCS (Graduated compression stockings-TED hose) <b>For Fractures only</b></li> </ul>
<b>Urological and Perineal Surgery</b>	<ul style="list-style-type: none"> <li>▪ LDUH (Heparin), LMWH (Lovenox), or Factor Xa Inhibitor (Arixtra-not formulary)</li> <li>▪ IPC (Intermittent pneumatic compression devices- Sequential TEDS, DVT boots –calf/thigh)</li> <li>▪ GCS (Graduated compression stockings- TED hose)</li> </ul>	Same



# SURGICAL CARE IMPROVEMENT PROJECT (SCIP)

## Day of Surgery - ICU/HVI

**TEMP: Rationale** - To ensure body temperature recorded and follow up if required

## Day of Surgery

**VTE: Rationale** - To decrease potential for blood clot formation and/or PE

**#1: Was major abdominal, bowel/colon, hip or general surgical case performed?**

- Yes, Pharmacological VTE prophylaxis **required** (see exceptions below).

**#2: Was GYN, URO, knee or intracranial surgery performed? Is mechanical prophylaxis in place & documented?**

- Yes, **STOP**- Only ONE type of VTE prophylaxis required
- No, Pharmacological VTE prophylaxis is **required** (see exceptions below)

### EXCEPTIONS:

**\*Pharmacological prophylaxis** is NOT required when the following is documented: epidural, spinal anesthesia, active or risk for bleeding, blood transfusion given between arrival & 24 hrs after surgery, thrombocytopenia, patient refusal or "other" documented by MD

**\*VTE prophylaxis** is NOT required for patients on warfarin prior to admission or on continuous IV heparin therapy w/in 24 hours before or after surgery

\*Refer to full explanation of VTE Prophylaxis if further clarification needed

## Post-Op Day 1

**ANTIBIOTIC: Rationale** - decrease overuse of antibiotics and side effects

**Note:** If an antibiotic continues longer than 24 hours **OR** if a new antibiotic is ordered between 24 and 48 hours post anesthesia end time there must be a documented reason as to why. Document reason given by the MD/PA/NP as a physician order or in progress notes.

**Acceptable documentation of infection:** A note regarding actual or suspected infection. For example, "Levaquin 500 mg daily for UTI (or possible UTI)".

\*Non acceptable words include: prophylaxis, signs, symptoms, and risk.

## Post-Op Day 2

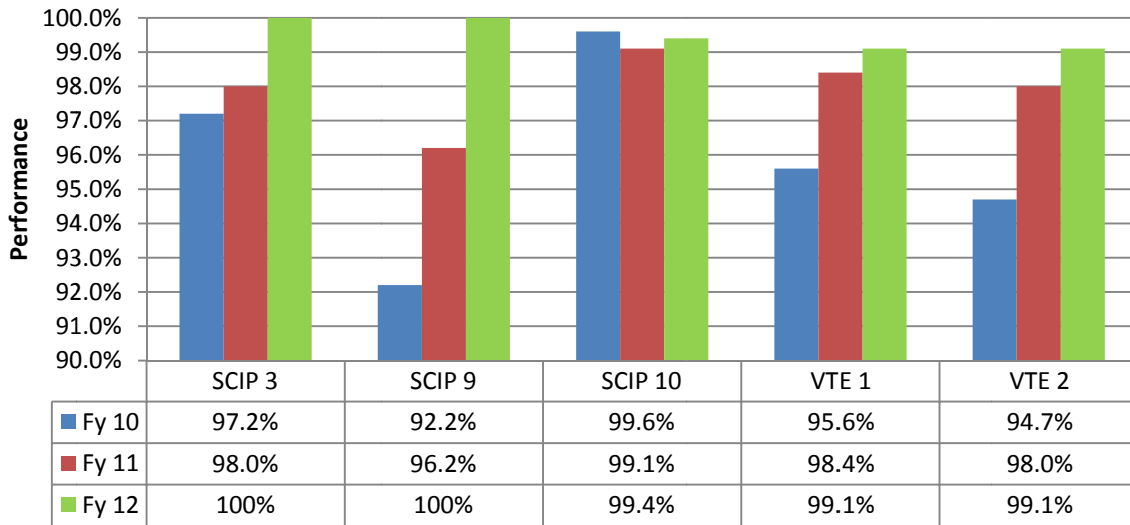
**FOLEY: Rationale** – decrease risk of UTI

**Note:** if the Foley is left in beyond POD #2, document the reason provided by MD/PA/NP before midnight POD#2. Document as a physician order or in the progress notes.

**Acceptable documentation for leaving Foley:** For example: Leave Foley in for accurate I/O **OR** Leave Foley in while epidural/PCA in place.

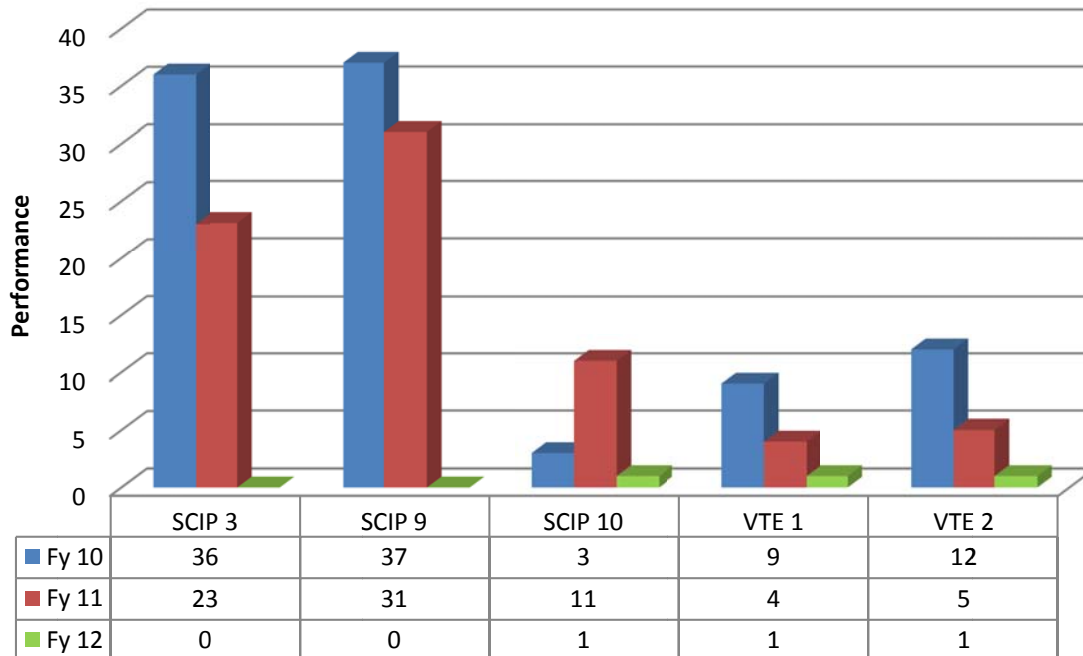
**\*Foley left in place for "patient comfort" is not acceptable**

## Bergan Mercy Medical Center SCIP Performance



SCIP Measures

## Bergan Mercy Medical Center SCIP Post-operative Measure Total "Fallouts"



SCIP Measures