NATIONAL QUALITY FORUM

Memo

TO: Consensus Standards Approval Committee (CSAC)

FR: Reva Winkler, Andrew Lyzenga, Wunmi Isijola, and Amaru J. Sanchez

RE: Surgery Member Voting Results

DA: October 14, 2014

The CSAC will review recommendations from the Surgery project at its October 14th meeting on a conference call.

This memo includes a summary of the project, recommended measures, and themes identified from and responses to the public and member comments.

Member voting on these recommended measures ended on September 25, 2014.

Accompanying this memo are the following documents:

1. **Surgery Draft Report**. The draft report has been updated to reflect the changes made following Standing Committee discussion of public and member comments. The complete draft report and supplemental materials are available on the project page.
2. **Comment table**. Staff has identified themes within the comments received. This table lists the 21 comments received and the NQF/Standing Committee responses.

CSAC ACTION REQUIRED
Pursuant to the CDP, the CSAC may consider approval of 21 candidate consensus standards.

Surgery Measures Recommended for Endorsement:

- 0114: Risk-Adjusted Postoperative Renal Failure
- 0119: Risk-Adjusted Operative Mortality for CABG
- 0129: Risk- Adjusted Prolonged Intubation (Ventilation)
- 0131: Risk- Adjusted Stroke/Cerebrovascular Accident
- 0178: Improvement in status of surgical wounds
- 0456: Participation in a Systematic National Database for General Thoracic Surgery
- 0734: Participation in a National Database for Pediatric and Congenital Heart Surgery
- 2052: Reduction of Complications through the use of Cystoscopy during Surgery for Stress Urinary Incontinence
- 2063: Performing cystoscopy at the time of hysterectomy for pelvic organ prolapse to detect lower urinary tract injury
- 2558: Hospital 30-Day All-Cause Risk-Standardized Mortality Rate Following CABG

- 2561: STS Aortic Valve Replacement (AVR) Composite Score
- 2563: STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score

Surgery Measures Recommended with Reserve Status

- 0113: Participation in a Systematic Database for Cardiac Surgery
- 0126: Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients
- 0128: Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients
- 0269: Timing of Prophylactic Antibiotics- Administering Physician
- 0268: Perioperative Care Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
- 0271: Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
- 0527: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
- 0528: Prophylactic Antibiotic Selection for Surgical Patients
- 0529: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time

Surgery Measures Not Recommended

- 0264: Prophylactic Antibiotics (IV) – Antibiotic Timing
- 0453: Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero
- 0458: Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)
- 2038: Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse
- 2556: Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity
- 2557: Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures
- 2559: Bariatric Surgery Hospital Accreditation

Measure evaluation summary tables for each of the measures listed above can be found in Appendix A.

BACKGROUND

The rate of surgical procedures is increasing annually. In 2010, 51.4 million inpatient surgeries were performed in the United States; 53.3 million procedures were performed in ambulatory surgery centers. Ambulatory surgery centers have been the fastest growing provider type participating in Medicare.

NQF's portfolio of 131 surgical measures is one of the largest and most long-standing with measures in the topic areas of perioperative safety, care coordination, cardiac surgery, vascular surgery, abdominal and colorectal surgery, and a range of other clinical or procedural sub-topic. Many of the measures in

the portfolio currently are used in public and/or private accountability and quality improvement programs

Most recently, the newly-convened Surgery Standing Committee which includes 25 members met during a two-day in-person meeting to evaluate 29 measures: 9 new measures and 20 measures undergoing maintenance of endorsement review against NQF's standard evaluation criteria. Twenty one of these measures were recommended for endorsement by the Committee, eight were not recommended, and one was withdrawn by the developer.

DRAFT REPORT

The Surgery Draft Report presents the results of the evaluation of 29 measures considered under the CDP. Twenty one are recommended (9 of which were recommended for reserve status) for endorsement as voluntary consensus standards suitable for accountability and quality improvement, seven were not recommended and one was withdrawn by the developer. The measures were evaluated against the 2013 version of the measure evaluation criteria.

	MAINTENANCE	NEW	TOTAL
Measures considered	20	9	29
Withdrawn from consideration	1	0	1
Recommended	7	5	12
Recommended with reserve status	9	0	9
Not recommended	3	4	7
Reasons not Recommended	Importance- 1 Scientific Acceptability- 1 Overall- 1	Importance- 1 Scientific Acceptability- 3 Overall- 0	

COMMENTS AND THEIR DISPOSITION

NQF received 32 comments from member organizations and individuals pertaining to the general draft report and to the measures under consideration. The vast majority of the comments were supportive of the recommendations made by the Committee.

A table of comments submitted during the comment period, with the responses to each comment and the actions taken by the Standing Committee and measure developers, is posted to the Surgery project page under the Public and Member Comment section.

Comment Themes and Committee Responses

One major theme was identified in the post-evaluation comments, as follows:

Reserve Status

One general comment and five measure-specific comments voiced concerns regarding the Committee's recommendation for reserve status for clinician-level measures #0269 and #0271 and use in the PQRS program.

NQF Response: Measures placed in reserve status remain endorsed by NQF. The reserve status designation indicates that the measure is a credible, reliable and valid measure of quality but offers little opportunity for improvement, i.e., it is "topped out". At their July 7, 2014 meeting, the Consensus Standards Approval Committee (CSAC) revisited the reserve status policy to review the first three years' experience. The CSAC strongly supports continuation of the reserve status designation as a signal that the measures are still good measures that are endorsed by NQF but may not be useful in driving improvements in quality because performance rates are very high. The CSAC also indicated that the Surgery Committee used the reserve status designation as intended. In the absence of a reserve status option, the measure would lose endorsement if the Committee determines that it no longer meets NQF criteria ***1b. Opportunity for Improvement*** which is a "must pass" criterion. One important purpose of maintaining endorsement in reserve status is that the measure is available for periodic checks on performance.

Committee Response: The Committee was in agreement that although important, these measures provide minimal opportunity for improvement in performance and therefore should be recommended for endorsement with the designation of reserve status.

Measure Specific Comments

Measure # 0119: Risk-Adjusted Operative Mortality for CABG and
Measure # 2558: Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft CABG Surgery

NQF Response: Under NQF's decision rules for identifying competing and related measures 0119: Risk- Adjusted Operative Mortality for CABG and 2558: Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft CABG Surgery were identified as competing measures since both evaluate 30-day mortality after CABG surgery**.** The developers provided clarifying comments indicating that the measures are complimentary in providing somewhat different information and are harmonized to the extent possible. The different data sources used for each measure (registry data vs. administrative claims data) generated different risk adjustment variables available through those data sources.

Committee Response: The Committee accepted the developer's explanation, and ultimately recommended both measures for endorsement, noting the measures were complementary and not competing.

NQF MEMBER VOTING RESULTS

All of the recommended measures were approved with 75% approval or higher. Representatives of 15 member organizations voted; no votes were received from the Supplier/Industry, Consumer and Public/Community health Agency Councils. Results for each measure are provided below. (Links are provided to the full measure summary evaluation tables.)

REMOVE ENDORSEMENT OF MEASURES

Four measures previously endorsed by NQF have not been re-submitted, withdrawn from maintenance of endorsement, or not recommended for continued endorsement:

Measure	Description	Reason for removal of endorsement
0454: Perioperative Temperature Management	American Society of Anesthesiologists (ASA)	New specifications need further clarification. Developer removed during the Committee's evaluation at the 2-day in person meeting.
0270 Perioperative Care: Timing of Parenteral Antibiotics – Ordering Physician	Percentage of surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic parenteral antibiotics, who have an order for prophylactic antibiotic to be given within one hour (if fluoroquinolone or vancomycin, two hours), prior to the surgical incision (or start of procedure when no incision is required)	Measure retired by the measure steward.
0452 Surgery Patients with Perioperative Temperature Management	Surgery patients for whom either active warming was used intraoperatively for the purpose of maintaining normothermia or who had at least one body temperature equal to or greater than 96.8° F/36° C recorded within the 30 minutes immediately prior to or the 15 minutes immediately after Anesthesia End Time.	Measure retired by the measure steward.
0637 Perioperative Care: Discontinuation of Prophylactic Antibiotics (cardiac procedures)	Percentage of cardiac surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic antibiotics AND who received a prophylactic antibiotic, who have an order for discontinuation of prophylactic antibiotics within 48 hours of surgical end time.	Measure steward harmonizing with another existing measure.

Appendix A – Measure Evaluation Summary Tables

LEGEND: Y = Yes; N = No; H = High; M = Moderate; L = Low; I = Insufficient

Measures Recommended

0114 Risk-Adjusted Postoperative Renal Failure
Submission | Specifications
Description: Percent of patients aged 18 years and older undergoing isolated CABG (without pre-existing renal failure) who develop postoperative renal failure or require dialysis **Numerator Statement**: Number of patients undergoing isolated CABG who develop postoperative renal failure or require dialysis **Denominator Statement**: All patients undergoing isolated CABG **Exclusions**: Patients with documented history of renal failure, baseline serum creatinine of 4.0 or higher; prior renal transplants are not considered preoperative renal failure unless since transplantation their Cr has been or is 4.0 or higher **Adjustment/Stratification**: Statistical risk model **Level of Analysis:** Facility, Clinician : Group/Practice **Setting of Care:** Hospital/Acute Care Facility **Type of Measure**: Outcome **Data Source**: Electronic Clinical Data : Registry **Measure Steward**: The Society of Thoracic Surgeons
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: The measure meets the Importance criteria** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **Y- 22; N- 0**; 1b. Performance Gap: **H- 12; M- 10; L- 0; I-0;** 1c. Impact: **H- 21; M- 1; L- 0; I-0** Rationale: • The Committee agreed that postoperative renal failure can be reduced through improved recognition and implementation of evidence-based perioperative interventions and approaches. • Data provided by the developer show that for the measurement period of July 2012 to June 2013, providers' risk-adjusted rates of postoperative renal failure ranged from 1.3% in the highest performance docile to 3.9% in the lowest performance decile. • The Committee considered there to be a significant opportunity for improvement on this measure. • It was noted that performance on this measure is influenced by multiple healthcare providers across the perioperative episode. • The Committee agreed that the measure addresses an area of high morbidity and cost.
2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

0114 Risk-Adjusted Postoperative Renal Failure
2a. Reliability: **H- 17; M- 4; L- 0; I-0;** 2b. Validity: **H- 21; M- 1; L- 0; I-0** Rationale: • Committee members found the measure to have clear specifications and well-justified exclusions. • To demonstrate reliability of the measure, the developers presented information on the STS database audit process, through which participants are randomly selected on an annual basis to undergo an evaluation of the accuracy, consistency, and comprehensiveness of data collection activities. • Data submitted by the developer show that in the 10% of STS Adult Cardiac Surgery Database participants subjected to an audit, there was 96.6% agreement between information submitted to the registry by participants and information re-abstracted by independent auditors. • The Committee generally found the reliability information submitted by the developers to be adequate. • To demonstrate measure validity, the developers tested the stability of measure results over time. Because providers are unlikely to have significant fluctuations in performance from year to year, stability of measure scores over time may indicate that the measure is capturing an accurate signal of provider performance. • Testing results submitted by the developer showed that registry participants rated as 'high' or 'low' in one performance period (July 2011-June 2012) were more likely than other participants to receive that same rating in the following performance period (July 2012-June 2013). No STS registry participants jumped from 'low' to 'high' performance between measurement periods, and 'mid'-level performers were highly likely to remain in that category. • The Committee was satisfied with the measure's validity.
3. Feasibility: H- 15; M- 7; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • **The Committee expressed no concerns regarding the feasibility of this measure.**
4. Use and Usability: H- 17; M- 5; L- 0; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • **The Committee expressed no concerns regarding the use or usability of this measure.**
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 21; N-0**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received:

0114 Risk-Adjusted Postoperative Renal Failure
• Commenters generally expressed support for the measure and the Committee's recommendation for endorsement. One commenter recommended adding CVVHD and other bedside modalities as numerator complaint Developer Response: • Measure: 0114 (Risk-Adjusted Postoperative Renal Failure) documents the percent of patients aged 18 years and older undergoing isolated CABG (without pre-existing renal failure) who develop postoperative renal failure or require dialysis. Therefore, "CVVHD and other bedside modalities" are already included in the numerator when CVVHD and other bedside modalities" are used in patients who develop new onset postoperative renal failure. Meanwhile, "CVVHD and other bedside modalities" are intentionally excluded when they are used in patients without renal failure (such as the patient whose major problem is not renal insufficiency but massive volume overload following prolonged cardiopulmonary bypass recognizing in these scenarios that "CVVHD and other bedside modalities" are used mainly to remove excess fluid.) Committee response: • The Committee supported the construction of the measure and accepted the explanation of the developer regarding the measure specifications.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0119 Risk-Adjusted Operative Mortality for CABG
Submission | Specifications
Description: Percent of patients aged 18 years and older undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the CABG was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure **Numerator Statement**: Number of patients undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the operation was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure **Denominator Statement**: All patients undergoing isolated CABG **Exclusions**: N/A **Adjustment/Stratification**: Statistical risk model **Level of Analysis:** Facility, Clinician : Group/Practice **Setting of Care:** Hospital/Acute Care Facility **Type of Measure**: Outcome **Data Source**: Electronic Clinical Data : Registry

0119 Risk-Adjusted Operative Mortality for CABG
Measure Steward: The Society of Thoracic Surgeons
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **Y- 20; N- 0**; 1b. Performance Gap: **H- 15; M- 5; L- 0; I- 0;** 1c. Impact: **H- 19; M- 1; L- 0; I-0** <u>Rationale</u>: • The Committee agreed that there is a strong rationale and evidence base indicating that mortality rates for patients undergoing CABG surgery can be affected through a variety of well-established healthcare interventions and approaches. • Data provided by the developer show that for the measurement period of July 2012 to June 2013, providers' risk-adjusted CABG mortality rates ranged from 1.65% in the highest performance decile to 2.5% in the lowest performance decile. • The Committee considered there to be a significant opportunity for improvement on this measure. • The Committee agreed that the measure addresses a high-impact and high-priority area.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 16; M- 5; L- 0; I-0**; 2b. Validity: **H- 19; M- 2; L- 0; I-0** <u>Rationale</u>: • The developer noted that the clinical nomenclature around CABG procedures allows for precise identification of the target population as well as fairly sophisticated risk-adjustment. • Committee members asked what percentage of CABG surgeries are captured by the STS Adult Cardiac Surgery Database • The developer estimated that approximately 95% of CABG procedures are captured, noting that 90-95% of all programs in the country doing CABG surgery participate in the STS Database, and that non-participants are likely to be lower-volume programs. • In response to questions from Committee members, the developer clarified that any death within 30 days of a CABG procedure is counted as an operative death, in an effort to capture the fullest possible picture of postoperative mortality. • The developer noted that the data element indicating mortality (vital status) is examined closely as part of the STS audit process, and estimated that 30-day mortality is captured with 98-99% accuracy. • To demonstrate reliability of the measure, the developers presented information on the STS database audit process, through which participants are randomly selected on an annual basis to undergo an evaluation of the accuracy, consistency, and comprehensiveness of data collection activities. • Data submitted by the developer show that in the 10% of STS Adult Cardiac Surgery Database

0119 Risk-Adjusted Operative Mortality for CABG
participants subjected to an audit, there was 96.6% agreement between information submitted to the registry by participants and information re-abstracted by independent auditors. • The Committee generally found the reliability information submitted by the developers to be adequate. • To demonstrate measure validity, the developers tested the stability of measure results over time. Because providers are unlikely to have significant fluctuations in performance from year to year, stability of measure scores over time may indicate that the measure is capturing an accurate signal of provider performance. • Testing results submitted by the developer showed that registry participants rated as 'low' in one performance period (July 2011-June 2012) were more likely than other participants to receive that same rating in the following performance period (July 2012-June 2013). No providers were given 'high' ratings in either performance period, and 'mid'-level performers were highly likely to remain in that category across time. • Committee members found the measure's risk adjustment approach to be sound and well-supported. • The Committee was satisfied with the measure's validity.
3. Feasibility: H- 10; M- 11; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • Committee members noted that there are substantial costs associated with registry participation, including a significant data collection burden. • The developer highlighted a collaborative effort between STS and leading EHR vendors to develop an infrastructure allowing for direct importation of data from EHRs, potentially reducing the data entry burden significantly. • The Committee was generally satisfied with the measure's feasibility.
4. Use and Usability: H- 12; M- 11; L- 0; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The developer confirmed that CABG mortality rates have decreased consistently over time, suggesting that this speaks to the benefits of participation in a multi-institutional clinical registry. • The developer clarified that measure performance is reported at both the hospital and practice group level, noting that there is a small degree of overlap between these groups. • Committee members asked whether the measure could also be stratified to provide performance information on individual physicians. • The developer responded that there are issues related to small sample size at the individual physician level, and noted that, to-date, STS has chosen to pursue a strategy of measuring outcomes that reflect the performance of entire teams, as opposed to individual providers. • However, the developer also reported that STS is actively working to develop a method for reporting

0119 Risk-Adjusted Operative Mortality for CABG
cardiac surgical performance stratified by individual physician. • Committee members noted that acceptance of measurement efforts by specialty societies is an important factor in increasing clinician buy-in and measure use. • Some Committee members expressed concern about the difficulty of discerning between practices or providers based on publicly-reported measure results, which show little variation and high levels of performance across providers, noting that this is due in part to the low incidence of the outcome in general. • The developer pointed out that this measure is part of the STS's overall CABG composite, which achieves a larger sample size by combining a number of outcomes into a single measure, thereby allowing for clearer differentiation between providers. • The Committee was generally satisfied with the use and usability of this measure.
5. Related and Competing Measures • This measure directly competes with 2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery, the measure estimates a hospital-level, risk-standardized mortality rate (RSMR) for patients 18 years and older discharged from the hospital following a qualifying isolated CABG procedure. Mortality is defined as death from any cause within 30 days of the procedure date of an index CABG admission. The measure was developed using Medicare Fee-for-Service (FFS) patients 65 years and older and was tested in all-payer patients 18 years and older. An index admission is the hospitalization for a qualifying isolated CABG procedure considered for the mortality outcome.
Standing Committee Recommendation for Endorsement: **Y- 23; N-0**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
Submission | Specifications
Description: Percent of patients aged 18 years and older undergoing isolated CABG who require intubation for more than 24 hours postoperatively **Numerator Statement**: Number of patients undergoing isolated CABG who require intubation > 24 hours following exit from the operating room **Denominator Statement**: All patients undergoing isolated CABG **Exclusions**: N/A

0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)

Adjustment/Stratification: Statistical risk model
Level of Analysis: Facility, Clinician : Group/Practice
Setting of Care: Hospital/Acute Care Facility
Type of Measure: Outcome
Data Source: Electronic Clinical Data : Registry

Measure Steward: The Society of Thoracic Surgeons

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>
(1a. Evidence, 1b. Performance Gap, 1c. High Impact)
1a. Evidence: **H- 21; M - 0; L- 0; I-0**; 1b. Performance Gap: **H- 5; M-14; L- 2; I-0;** 1c. Impact: **H- 20; M- 1; L- 0; I-0**
<u>Rationale</u>:

- The developer noted that prolonged ventilation is associated with postoperative pneumonia, decreased survival, increased mediastinitis, and a variety of other complications.
- Committee members observed that this measure promotes shared accountability, as the outcome is affected by a range of clinicians across the healthcare team.
- Some Committee members questioned whether this measure should actually be considered an intermediate outcome rather than a pure outcome, as early extubation plays an intermediate role in avoidance of complications and increased morbidity.
- However, the Committee recognized that the focus of the measure could be thought of as respiratory failure as measured by need for ventilatory support, making it more of a true outcome, while noting that patients and families are likely to consider independent breathing to be an important outcome in itself.
- The Committee agreed that there are interventions and approaches that have been demonstrated to be effective in reducing prolonged intubation.
- The developer provided information showing that performance on the measure (for the period July 2012-June 2013) ranged from 5.67% in the highest-performing decile to 14.77% in the lowest performing decile.
- The Committee agreed that there is a significant opportunity for improvement on this measure.
- The Committee also agreed that the measure addresses a high-priority area, given its impact on patient morbidity and healthcare costs.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H- 12; M- 9; L- 0; I-0;** 2b. Validity: **H- 19; M- 2; L- 0; I-0**
<u>Rationale</u>:

- In response to Committee questions, the developer clarified that the time period covered by the

0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
measure begins when the patient leaves the operating room and ends when the patient is discharged. Any amount of time within this period that the patient is intubated counts toward the measure. • To demonstrate reliability of the measure, the developers presented information on the STS database audit process, through which participants are randomly selected on an annual basis to undergo an evaluation of the accuracy, consistency, and comprehensiveness of data collection activities. • Data submitted by the developer show that in the 10% of STS Adult Cardiac Surgery Database participants subjected to an audit, there was 96.6% agreement between information submitted to the registry by participants and information re-abstracted by independent auditors. • The Committee generally found the reliability information submitted by the developers to be sufficient. • To demonstrate measure validity, the developers tested the stability of measure results over time. Because providers are unlikely to have significant fluctuations in performance from year to year, stability of measure scores over time may indicate that the measure is capturing an accurate signal of provider performance. • Testing results submitted by the developer showed that registry participants rated as 'high' or 'low' in one performance period (July 2011-June 2012) were more likely than other participants to receive that same rating in the following performance period (July 2012-June 2013, and that 'mid'-level performers were highly likely to remain in that category across time. • The Committee was satisfied with the validity of the measure.
3. Feasibility: H- 16; M- 5; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • Committee members noted that a potential unintended consequence of the measure is that patients could be extubated early in order to comply with the measure, leading to re-intubation because they were extubated earlier than they should have been. • Because members of the Committee had raised this concern during a workgroup call ahead of the meeting, the developer had examined data from the STS registry to determine whether this was indeed a problem, The developer reported that there is no evidence that this unintended consequence exists, noting that the data show that patients who are extubated early are actually significantly less likely to be re-intubated than those who experience prolonged intubation. • The developer also pointed out that when patients are re-intubated, the time after re-intubation is counted in the measure. • The Committee was generally satisfied with the measure's feasibility.

0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
4. Use and Usability: H- 13; M- 8; L- 0; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The Committee inquired about the extent to which STS database participants have taken part in voluntary reporting through the registry. • The developers stated that since the registry's inception, voluntary public reporting participation has increased from 20% to approximately 50%, and noted that efforts to increase these rates are ongoing. • Committee members asked whether the surgery programs participating in public reporting were representative of participants in the registry as a whole. • The developer responded that public reporters were skewed slightly toward higher-performing programs, but that there was still good representation across performance levels. • The Committee was generally satisfied with the use and usability of the measure.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 21; N- 0**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0131 Risk-Adjusted Stroke/Cerebrovascular Accident
Submission | Specifications
Description: Percent of patients aged 18 years and older undergoing isolated CABG who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours **Numerator Statement**: Number of patients undergoing isolated CABG who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours **Denominator Statement**: All patients undergoing isolated CABG **Exclusions**: N/A **Adjustment/Stratification**: Statistical risk model

0131 Risk-Adjusted Stroke/Cerebrovascular Accident

Level of Analysis: Facility, Clinician : Group/Practice
Setting of Care: Hospital/Acute Care Facility
Type of Measure: Outcome
Data Source: Electronic Clinical Data : Registry
Measure Steward: The Society of Thoracic Surgeons

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **Y- 23; N- 0**; 1b. Performance Gap: **H- 7; M- 10; L- 4; I-1;** 1c. Impact: **H- 19; M- 3; L- 0; I-0**

Rationale:

- The Committee agreed that post-CABG stroke rates can be reduced through the implementation of various evidence-based perioperative strategies.
- Committee members observed that there is not a large gap in performance among providers on this measure, and that performance was generally very high across providers.
- In this context, the Committee discussed the value of measuring low-incidence adverse events, which can be of limited use in discriminating between high and low performers, but which may still be important due to the severity of many such events and the potential for further improvement. A number of Committee members noted that despite the low incidence of postoperative stroke, there is still room to drive incidence rates even lower.
- The Committee generally agreed that measurement of this outcome is important because of the significant and devastating impact of postoperative stroke on patients, even if such events occur relatively infrequently.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 14; M- 8; L- 0; I-0;** 2b. Validity: **H- 17; M- 5; L- 0; I-0**

Rationale:

- To demonstrate reliability of the measure, the developers presented information on the STS database audit process, through which participants are randomly selected on an annual basis to undergo an evaluation of the accuracy, consistency, and comprehensiveness of data collection activities.
- Data submitted by the developer show that in the 10% of STS Adult Cardiac Surgery Database participants subjected to an audit, there was 96.6% agreement between information submitted to the registry by participants and information re-abstracted by independent auditors.
- The Committee generally found the reliability information submitted by the developers to be adequate.
- To demonstrate measure validity, the developers tested the stability of measure results over time. Because providers are unlikely to have significant fluctuations in performance from year to year, stability of measure scores over time may indicate that the measure is capturing an accurate signal of provider performance.
- Testing results submitted by the developer showed that while (July 2011-June 2012 and July 2012-June2013), providers rated as either 'low' or 'mid' performers were more likely to remain in the same

0131 Risk-Adjusted Stroke/Cerebrovascular Accident
performance category from year to year than to move between performance categories (no providers were given 'high' ratings in either performance period). The developers suggested that these results demonstrate substantial measure validity. • The developers also noted that an expert panel had assessed and confirmed the face validity of the measure. • The Committee was generally satisfied with the measure's validity.
3. Feasibility: H- 12; M- 10; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • The Committee expressed no concerns regarding the feasibility of this measure.
4. Use and Usability: H- 13; M- 6; L- 2; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • Some Committee members questioned whether the measure results were truly meaningful given the lack of differentiation between providers based on risk-adjusted performance scores. • In addition, Some Committee members expressed concern over the limited rate of improvement on the measure over time. • The developer noted that significant improvements in performance were seen in the 1990s and early 2000's, but that performance had leveled off in recent years. • Some Committee members suggested that performance could continue to improve as the 'same' outcomes are achieved in progressively sicker patients. • In general, the Committee was satisfied with the use and usability of this measure.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 20; N-2**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0178 Improvement in status of surgical wounds
Submission | Specifications
Description: Percentage of home health episodes of care during which the patient demonstrates an improvement

0178 Improvement in status of surgical wounds
in the condition of surgical wounds. **Numerator Statement**: Number of home health episodes of care where the patient has a better status of surgical wounds at discharge compared to start (or resumption) of care. **Denominator Statement**: All home health episodes of care in which the patient was eligible to improve in the status of their most problematic (observable) surgical wound. **Exclusions**: All home health episodes where it would be impossible for the patient to show measurable improvement because the patient did not have any surgical wounds or had only a surgical wound that was unobservable or fully epithelialized; OR the episode of care ended in transfer to inpatient facility or death at home; OR the episode is covered by the generic exclusions. **Adjustment/Stratification**: Statistical risk model **Level of Analysis:** Facility **Setting of Care:** Home Health **Type of Measure**: Outcome **Data Source**: Electronic Clinical Data **Measure Steward**: Centers for Medicare & Medicaid Services
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **Y- 19; N-3**; 1b. Performance Gap: **H- 9; M- 11; L- 0; I-0;** 1c. Impact: **H- 13; M- 6; L- 1; I-0** <u>Rationale</u>: • The Committee agreed that there are strategies and interventions that can be implemented in the home health setting to improve the status of surgical wounds. • The developer provided an assortment of performance data on the measure. Data from July 2012-June 2013 show that among agencies meeting the minimum threshold of 20 valid episodes, risk-adjusted performance ranged from 82.8% in the lowest performance quartile to 92.1% in the highest performance quartile, with a mean performance rate of 87.9%. • The Committee agreed that there is an opportunity for improvement on this measure. • The developer also provided data showing that approximately 25% of all home health patients have a surgical wound. • The Committee agreed that this measure addresses a high-impact area.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 1; M- 11; L-6; I-0;** 2b. Validity: **H- 3; M- 12; L- 3; I-0** <u>Rationale</u>: • Committee members requested additional information on the measure denominator, specifically asking what was meant by episodes of care in which the patient was "eligible to improve." • The developer explained that "eligible" patients are those who have wounds with room for improvement; patients with wounds in a relatively advanced state of healing at admission are not eligible for inclusion in the measure.

0178 Improvement in status of surgical wounds
• The developer also noted that clinicians are provided with extensive guidance on evaluation of wound status based on recommendations from the Wound, Ostomy and Continence Nurses Society (WOCN). • To demonstrate measure reliability, the developers conducted a signal-to-noise analysis, using a beta-binomial method to estimate the extent to which the measure captures actual differences in agency performance versus variation due to measurement error. • The developer also calculated test-retest reliability of the measure, randomly dividing episodes within each agency into equal-size groups and obtaining performance rates for each group. An intra-class correlation coefficient (ICC) was derived to show the amount of measure variance that can be attributed to actual inter-agency variation. • The signal-to-noise analysis resulted in a mean reliability score of 0.71, and the test-retest analyses resulted in an ICC of 0.63; both scores suggest an acceptable level of measure reliability. • The Committee was generally satisfied with the reliability of the measure. • To demonstrate measure validity, the developers assessed the extent to which scores on this measure are correlated with scores on other relevant measures, including a variety of home health quality measures and patient experience of care measures. • The results of this analysis showed that there is a statistically-significant correlation between this measure and a number of other related measures. • The Committee was generally satisfied with the measure's validity.
3. Feasibility: H- 13; M- 5; L-0 ; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • The measure is calculated based on data obtained from the Home Health Outcome and Assessment Information Set (OASIS-C), which is a core dataset collected by home health agencies as part of routine care. • The Committee was generally satisfied with the measure's feasibility.
4. Use and Usability: H- 10; M-8 ; L-0 ; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • CMS currently publicly reports this measure for Medicare and Medicaid patients on the Home Health Compare website. • The Committee was generally satisfied with the use and usability of this measure.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 17; N-1**
6. Public and Member Comment: July 3, 2014 – August 4, 2014

0178 Improvement in status of surgical wounds
Comments received: • One commenter was supportive of the measure but sought clarification on what is meant by episodes of care in which the patient was "eligible to improve." Developer Response: • "Eligible for improvement" means that at the start of the home health episode of care: 1) the patient has a surgical wound that is observable (OASIS-C item M1340 = 1); and 2) the surgical wound is not at the highest stage of healing indicated in OASIS-C item M1342 and so is capable of improving (M1342 response = 1, 2 or 3). The OASIS-C instrument is available for download here: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/OASISC.html" Committee response: • The Committee supported the construction of the measure and accepted the clarification of the Developer.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0456 Participation in a Systematic National Database for General Thoracic Surgery
Submission | Specifications
Description: Participation in a multi-center data collection and feedback program that provides benchmarking of the physician's data relative to national programs and uses structural, process, and outcome measures. **Numerator Statement**: Whether or not the physician participates for a 12-month period in at least one multi-center data collection and feedback program that provides benchmarking of the physician's data relative to national programs and uses structural, process, and outcome measures **Denominator Statement**: N/A **Exclusions**: N/A **Adjustment/Stratification**: No risk adjustment or risk stratification **Level of Analysis:** Facility, Clinician : Group/Practice, Clinician : Individual **Setting of Care:** Hospital/Acute Care Facility **Type of Measure**: Structure **Data Source**: Electronic Clinical Data : Registry **Measure Steward**: The Society of Thoracic Surgeons
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: The measure meets the Importance criteria** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **H- 4; M- 13; L- 5; I- 0**; 1b. Performance Gap: **H- 6; M- 11; L- 5; I- 0;** 1c. Impact: **H- 10; M- 11; L- 1; I- 0**

0456 Participation in a Systematic National Database for General Thoracic Surgery

Rationale:

- Some Committee members questioned the linkage between database participation and improved quality. The developer noted that the evidence base for the measure is inferred from published accounts of improved quality following participation in the STS Adult Cardiac Surgery and other national databases.
- The Committee identified no concerns regarding the performance gap given that data submitted by the developer suggests that while there are thousands of surgeons in hospitals performing general thoracic surgery, there are only 244 STS General Thoracic Surgery Database participants to date, demonstrating a gap between actual and potential performance for this measure.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 10; M- 10; L- 1; I- 1;** 2b. Validity: **H- 7; M- 12; L- 2; I- 1**

Rationale:

- The measure was tested for reliability and validity through a random audit process involving re-abstraction of data and a comparison of individual elements with those submitted to the data warehouse.
- Agreement rates were calculated for each of 36 variables; in 2013, the overall aggregate agreement rate was 96.58%.
- In addition, face validity is confirmed and regularly assessed by an expert panel of cardiothoracic surgeons who serve on the STS General Thoracic Surgery Database Task Force, STS Task Force on Quality Initiatives, and STS Workforce on National Databases.
- The Committee agreed that the results indicate sufficient reliability and validity.

3. Feasibility: H- 10; M- 11; L- 1; I- 0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)

Rationale:

- The Committee acknowledged that the measure is currently in use and the data is routinely generated through care delivery and captured in electronic sources.

4. Use and Usability: H- 9; M- 10; L- 3; I- 0

(Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)

Rationale:

- The developer reported that this measure will likely be publicly reported in the near future.
- Some Committee members suggested that structural measures may be of use for entities other than CMS (e.g. Joint Commission, insurers, etc.).

5. Related and Competing Measures

- No related or competing measures noted.

0456 Participation in a Systematic National Database for General Thoracic Surgery
Standing Committee Recommendation for Endorsement: **Y- 17; N- 5**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0734 Participation in a National Database for Pediatric and Congenital Heart Surgery
Submission | Specifications
Description: Participation in at least one multi-center, standardized data collection and feedback program for pediatric and congenital heart surgery that provides benchmarking of the physician's data relative to national and regional programs and uses process and outcome measures. **Numerator Statement**: Whether or not there is participation in at least one multi-center data collection and feedback program for pediatric and congenital heart surgery. **Denominator Statement**: NA **Exclusions**: N/A **Adjustment/Stratification**: No risk adjustment or risk stratification **Level of Analysis:** Facility, Clinician : Group/Practice, Population : National **Setting of Care:** Hospital/Acute Care Facility **Type of Measure**: Structure **Data Source**: Electronic Clinical Data : Registry **Measure Steward**: The Society of Thoracic Surgeons
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: The measure meets the Importance criteria** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **H- 6; M- 11; L- 5; I- 0**; 1b. Performance Gap: **H- 7; M- 9; L- 6; I- 0;** 1c. Impact: **H- 10; M- 11; L- 1; I- 0** Rationale: • The Committee had no concerns with the evidence presented. Based on the systematic review provided, there is a linkage between improved quality and participation in a national database. • The 2005 STS Congenital Heart Surgery Practice and Manpower Survey, undertaken by the STS Workforce on Congenital Heart Surgery, documented that 122 centers in the United States of America perform pediatric and congenital heart surgery. • The Committee agreed that there still remains a significant opportunity for improvement.

0734 Participation in a National Database for Pediatric and Congenital Heart Surgery
• The Committee recognized that congenital heart disease is a common birth defect that affects approximately 1 in 125 live births, underscoring the high priority of this measure.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 8; M- 12; L- 1; I- 1;** 2b. Validity: **H- 7; M- 11; L- 3; I- 1** <u>Rationale</u>: • The measure was tested for reliability and validity through a random audit process involving re-abstraction of data and a comparison of individual elements with those submitted to the data warehouse. • In 2013, the overall aggregate agreement rate was 94.59%, demonstrating that the data contained in the STS CHSD is both comprehensive and highly accurate, displaying its reliability. • Face validity was also assessed by an expert panel of cardiothoracic surgeons who serve on the STS Congenital Heart Surgery Database Task Force, STS Task Force on Quality Initiatives, and STS Workforce on National Databases, supporting that this measure distinguishes between good and bad quality of care.
3. Feasibility: H- 9; M- 14; L- 0; I- 0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* <u>Rationale</u>: • The Committee did not express any concerns, believing this measure to be feasible; however it was noted that data abstraction at the facility and the fees for participation make this an expensive enterprise for participating institutions.
4. Use and Usability: H- 7; M- 11; L- 4; I- 0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* <u>Rationale</u>: • This measure is currently used in the STS Congenital Heart Surgery Database.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 17; N- 5**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.

0734 Participation in a National Database for Pediatric and Congenital Heart Surgery
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

2052 Reduction of Complications through the use of Cystoscopy during Surgery for Stress Urinary Incontinence
Submission | Specifications
Description: Percentage of SUI surgeries for which cystoscopy was used during the surgical procedure to reduce complications **Numerator Statement**: Female patients who had SUI surgery for which cystoscopy was used during the surgical procedure to reduce complications **Denominator Statement**: Female patients who had SUI surgeries (without concomitant surgery for prolapse **Exclusions**: Documentation of medical reason(s) for not using cystoscopy during SUI surgery (patients for whom the use of a cystoscope may not be appropriate, such as the presence of a new cystostomy repair). The panel noted that endoscopy after a new repair should be cautiously used. Concomitant prolapse surgery is an exclusion. **Adjustment/Stratification**: **Level of Analysis:** Clinician : Individual **Setting of Care:** Ambulatory Care : Clinician Office/Clinic **Type of Measure**: Process **Data Source**: Administrative claims, Paper Medical Records **Measure Steward**: American Urological Association
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: The measure meets the Importance criteria** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **H-X**; **M-X**; **L-X**; **I-X; IE-X**; 1b. Performance Gap: **H-X**; **M-X**; **L-X**; **I-X;** 1c. Impact: **H-X**; **M-X**; **L-X**; **I-X** Rationale: • The Committee did not discuss this criterion during the meeting, since a determination was made by another Steering Committee (during Stage 1 of a pilot 2-stage evaluation process) that the criterion of Importance to Measure and Report had been met.
2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 16; M- 6; L- 0; I-0;** 2b. Validity: **H- 16; M- 7; L- 0; I-0** Rationale: • The Committee determined that the measure specifications were precise and consistent with the evidence presented.

2052 Reduction of Complications through the use of Cystoscopy during Surgery for Stress Urinary Incontinence

• The Committee agreed that reliability of the measure was demonstrated, with a 100% agreement rate between the two abstractors for the data element CYSTO, cystoscopy performed during the surgical procedure, and a kappa rate of 1.0.
  • reliability results from a kappa statistic identifying Reliability testing was conducted at the critical data element level
  • Face validity was assessed through a SUI Surgery Measures Validity questionnaire (developed by Tellegen and approved by the American Urological Association (AUA). 100% of respondents either agreed or strongly agreed that this measure accurately distinguishes between good and poor quality of care.

3. Feasibility: H- 7; M- 16; L- 1; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • The Committee concluded that there were no concerns regarding measure logic feasibility based on the feasibility assessment that includes administrative claims and paper medical records.
4. Use and Usability: H- 15; M- 9; L- 0; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • Although this measure is presently not being publicly reported, it is intended for use in PQRS and other public reporting mechanisms. • The Committee agreed that the benefits of the measure appear to outweigh any potential unintended consequences.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 24; N-0**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

2063 Performing cystoscopy at the time of hysterectomy for pelvic organ prolapse to detect lower urinary tract injury

Submission | Specifications

Description: Percentage of patients who undergo cystoscopy to evaluate for lower urinary tract injury at the time of hysterectomy for pelvic organ prolapse.

Numerator Statement: Numerator is the number of patients in whom an intraoperative cystoscopy was performed to evaluate for lower urinary tract injury at the time of hysterectomy for pelvic organ prolapse.

Denominator Statement: The number of patients undergoing hysterectomy for pelvic organ prolapse(identified by CPT codes for hysterectomy and ICD9/10 diagnoses of prolapse as listed in S.9).

Exclusions: There are no exclusions from the target population.

Adjustment/Stratification: No risk adjustment or risk stratification

Level of Analysis: Clinician : Group/Practice, Clinician : Individual

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Electronic Clinical Data : Electronic Health Record, Paper Medical Records

Measure Steward: American Urogynecologic Society

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **H-X**; **M-X**; **L-X**; **I-X; IE-X**; 1b. Performance Gap: **H-X**; **M-X**; **L-X**; **I-X;** 1c. Impact: **H-X**; **M-X**; **L-X**; **I-X**

Rationale:

- The Committee did not discuss this criterion during the meeting, since a determination was made by another Steering Committee (during Stage 1 of a pilot 2-stage evaluation process) that the criterion of Importance to Measure and Report had been met.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 10; M- 12; L- 0; I-0;** 2b. Validity: **H- 15; M- 7; L- 0; I- 0**

Rationale:

- Reliability was assessed at the critical data element level for inter-abstractor reliability to determine if a cystoscopy was performed at hysterectomy which was proven to be high, with a kappa statistic of .948
- Empiric validity testing was performed at the performance measure score level providing further evidence that routine use of cystoscopy after hysterectomy for prolapse improves detection of lower urinary tract injury.

3. Feasibility: H- 6; M- 15; L- 2; I- 0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

2063 Performing cystoscopy at the time of hysterectomy for pelvic organ prolapse to detect lower urinary tract injury
• The Committee agreed the measure is feasible for implementation but voiced concerns that this measure may be difficult to report accurately without systematic chart review.
4. Use and Usability: H- 12; M- 11; L- 0; I- 0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • There is little burden of measurement or unintended consequences but substantial benefits to continuing the measure. • The measure is not currently in use; however, there are plans for public reporting and implementation in payment and quality improvement programs.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 23; N- 0**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
Submission | Specifications
Description: The measure estimates a hospital-level, risk-standardized mortality rate (RSMR) for patients 18 years and older discharged from the hospital following a qualifying isolated CABG procedure. Mortality is defined as death from any cause within 30 days of the procedure date of an index CABG admission. The measure was developed using Medicare Fee-for-Service (FFS) patients 65 years and older and was tested in all-payer patients 18 years and older. An index admission is the hospitalization for a qualifying isolated CABG procedure considered for the mortality outcome. **Numerator Statement**: The outcome for this measure is 30-day all-cause mortality. Mortality is defined as death for any reason within 30 days of the procedure date from the index admission for patients 18 and older discharged from the hospital after undergoing isolated CABG surgery. **Denominator Statement**: This claims-based measure can be used in either of two patient cohorts: (1) patients aged 65 years or older or (2) patients aged 18 years or older. We have tested the measure in both age groups. The cohort includes admissions for patients who receive a q

2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery

Exclusions: Hospitalizations are excluded if they meet any of the following criteria. Hospitalizations for:

1) Patients with inconsistent or unknown vital status or other unreliable data.

Rationale: We exclude these because the outcome cannot be adequately measured in these patients.

2) Patients who leave the hospital against medical advice (AMA)

Rationale: We exclude hospitalizations for patients who are discharged AMA because providers did not have the opportunity to deliver full care and prepare the patient for discharge.

3) Patients with qualifying CABG procedures subsequent to another qualifying CABG procedure during the measurement period

Rationale: CABG procedures are expected to last for several years without the need for revision or repeat revascularization. A repeat CABG procedure during the measurement period very likely represents a complication of the original CABG procedure and is a clinically more complex and higher risk surgery. We, therefore, select the first CABG admission for inclusion in the measure and exclude subsequent CABG admissions from the cohort.

Adjustment/Stratification: Statistical risk model

Level of Analysis: Facility

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Outcome

Data Source: Administrative claims

Measure Steward: Centers for Medicare & Medicaid Services

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **Y- 23; N- 0**; 1b. Performance Gap: **H- 16; M- 6; L- 0; I-0;** 1c. Impact: **H- 21; M- 1; L- 0; I-0**

<u>Rationale</u>:

- Evidence provided by the developer displays a direct relationship between the outcome of mortality and processes of care, including timing of procedure in relation to cardiac events and various peri-operative strategies.
- The developer provided data from 2009-2011 showing that risk-adjusted mortality rates ranged from 1.5% to 9.3%, demonstrating a gap in performance.
- The Committee agreed that an opportunity for improvement remains on this measure.
- In 2007, there were 114,028 hospitalizations for CABG surgery and 137,721 hospitalizations for combined surgeries for CABG and valve procedures ("CABG plus valve" surgeries) among Medicare FFS patients in the United States, suggesting that this is a high priority.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 12; M- 10; L-1; I-0;** 2b. Validity: **H- 14; M- 9; L- 0; I-0**

<u>Rationale</u>:

- Reliability testing was conducted at both the performance measure score and data element level. A test-

2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
retest approach was performed with the correlation coefficient being 0.32 which the Committee stated was sufficient for reliability. • Validity was conducted at both the data element and measure score level. Face validity was also assessed by a Technical Expert Panel using a six-point scale obtained from the mortality measure as specified, provide an accurate distinction between good and bad quality of care.
3. Feasibility: H- 21; M- 2; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • The Committee had no concerns regarding measure logic feasibility based on the feasibility assessment using administrative claims.
4. Use and Usability: H- 8; M- 12; L- 3; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The Committee discussed no concerns regarding usability and use. Although this measure is not being currently reported, the developer stated plans for future use.
5. Related and Competing Measures • This measure directly competes with 0119 Risk-Adjusted Operative Mortality for CABG, Percent of patients aged 18 years and older undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the CABG was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure.
Standing Committee Recommendation for Endorsement: Y- 22; N-1
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

2561 STS Aortic Valve Replacement (AVR) Composite Score
Submission | Specifications

2561 STS Aortic Valve Replacement (AVR) Composite Score

Description: STS AVR Composite Score comprises two domains consisting of six measures: Domain 1) Absence of Operative Mortality – Proportion of patients (risk-adjusted) who do not experience operative mortality. Operative mortality is defined as death during the same hospitalization as surgery or after discharge but within 30 days of the procedure; and Domain 2) Absence of Major Morbidity – Proportion of patients (risk-adjusted) who do not experience any major morbidity. Major morbidity is defined as having at least one of the following adverse outcomes: 1. reoperations for any cardiac reason, 2. renal failure, 3. deep sternal wound infection, 4. prolonged ventilation/intubation, and 5. cerebrovascular accident/permanent stroke. All measures are based on audited clinical data collected in a prospective registry and are risk-adjusted.

Numerator Statement: Please see appendix.

Denominator Statement: Please see appendix.

Exclusions: Please see appendix.

Adjustment/Stratification: Statistical risk model

Level of Analysis: Facility, Clinician : Group/Practice

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Composite

Data Source: Electronic Clinical Data : Registry

Measure Steward: The Society of Thoracic Surgeons

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **Y- 21; N- 0**; 1b. Performance Gap: **H- 12; M- 8; L- 1; I-0;** 1c. Impact: **H- 21; M- 0; L- 0; I-0;** 1d. Composite: **H- 13; M- 8; L- 0; I-0**

Rationale:

- This is a composite outcome measure.
- The developer provided data showing that based on data gathered in Spring 2013 (covering the previous three years), performance on the measure ranged from 86.8% to 97.6%.
- The Committee agreed that there is a sufficient performance gap.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 17; M- 4; L- 0; I-0;** 2b. Validity: **H- 15; M- 5; L- 0; I-0;** 2d. Composite: **H- 13; M- 7; L- 0; I-0**

Rationale:

- The developers presented a risk adjustment model established by the STS Task Force, using the results of a peer reviewed study to support the composite measure construction.
- Reliability testing was conducted at the measure score level by conducting a signal-to-noise reliability test with the average reliability score being 0.49.
- The Committee raised concerns regarding the weighting of the two domain scores (absence of operative mortality and major morbidity) and its implications when evaluating the variations in score.
- Face validity was systematically assessed by a panel of surgeon experts and statisticians to establish

2561 STS Aortic Valve Replacement (AVR) Composite Score
agreement that the measure's performance measure score could be used to distinguish quality of care. • The Committee was generally satisfied with the measure's reliability and validity.
3. Feasibility: H- 12; M- 8; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • Overall the Committee agreed the measure was feasible to implement, but noted that the current AVR/CABG composite score does not allow for administrative data collection.
4. Use and Usability: H- 17; M- 3; L- 0; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The developer stated that although this measure is currently used only for quality improvement with benchmarking, there are plans for use in public reporting on STS Public Reporting Online in August 2014.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 20; N-0**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

2563 STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score
Submission | Specifications
Description: The STS AVR+CABG Composite Score comprises two domains consisting of six measures: Domain 1) Absence of Operative Mortality – Proportion of patients (risk-adjusted) who do not experience operative mortality. Operative mortality is defined as death during the same hospitalization as surgery or after discharge but within 30 days of the procedure; and Domain 2) Absence of Major Morbidity – Proportion of patients (risk-adjusted) who do not experience any major morbidity. Major morbidity is defined as having at least one of the following adverse outcomes: 1. reoperations for any cardiac reason, 2. renal failure, 3. deep sternal wound infection, 4. prolonged ventilation/intubation, and 5. cerebrovascular accident/permanent stroke. All measures are based on audited

2563 STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score
clinical data collected in a prospective registry and are risk-adjusted. **Numerator Statement**: Please see appendix. **Denominator Statement**: Please see appendix. **Exclusions**: Please see appendix. **Adjustment/Stratification**: Statistical risk model **Level of Analysis:** Facility, Clinician : Group/Practice **Setting of Care:** Hospital/Acute Care Facility **Type of Measure**: Composite **Data Source**: Electronic Clinical Data : Registry **Measure Steward**: The Society of Thoracic Surgeons
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: The measure meets the Importance criteria** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **Y- 21; N- 0**; 1b. Performance Gap: **H- 12; M- 8; L- 1; I-0;** 1c. Impact: **H- 21; M- 0; L- 0; I-0;** 1d. Composite: **H- 13; M- 8; L- 0; I-0** Rationale: • This is a composite outcome measure. • Small numbers of outliers were identified in the data presented, therefore displaying an opportunity for improvement.
2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 17; M- 4; L- 0; I-0;** 2b. Validity: **H- 15; M- 5; L- 0; I-0;** 2d. Composite: **H- 13; M- 7; L- 0; I-0** Rationale: • The risk assessment model established by the STS Task Force, with one peer reviewed journal article was presented to support the 3 year composite analysis of mortality and morbidity for the basis of a 3-star program rating. • Reliability testing was conducted at the measure score level by conducting a signal-to-noise reliability test with the overall score being 0.50. • The Committee raised concerns regarding the weighting of the two domain scores (absence of operative mortality and major morbidity) and the implications of that weighting scheme when evaluating provider performance scores. • Face validity was systematically assessed by a panel of surgeon experts and statisticians to establish agreement that the measure's performance measure score could be used to distinguish quality of care. • The Committee was generally satisfied with the measure's reliability and validity.
3. Feasibility: H- 12; M- 8; L- 0; I-0

2563 STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score
(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented) Rationale: • Overall, the Committee agreed the measure was feasible to implement, but noted that the current AVR/CABG composite score does not allow for administrative data collection.
4. Use and Usability: H- 17; M- 3; L- 0; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The developer stated that although this measure is currently used for quality improvement with benchmarking, there are plans for use in public reporting on STS Public Reporting Online in August 2014.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 20; N-0**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

Measures Recommended with Reserve Status

0113 Participation in a Systematic Database for Cardiac Surgery
Submission | Specifications
Description: Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data **Numerator Statement**: Does the facility participate in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data? (y/n) **Denominator Statement**: N/A **Exclusions**: N/A **Adjustment/Stratification**: No risk adjustment or risk stratification **Level of Analysis:** Facility, Clinician : Group/Practice, Population : National

0113 Participation in a Systematic Database for Cardiac Surgery

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Structure

Data Source: Electronic Clinical Data : Registry

Measure Steward: The Society of Thoracic Surgeons

STANDING COMMITTEE MEETING [05/28/2014- 05/29/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H- 4; M- 14; L- 5; I-1**; 1b. Performance Gap: **H- 0; M- 8; L- 16; I- 1;** 1c. High Priority: **H- 11; M- 9; L- 3; I- 2**

<u>Rationale</u>:

- The developer presented data suggesting that participation in a systematic database for cardiac surgery is itself associated with improvements in provider performance.
- The developer estimates that 90% of U.S. cardiac surgery centers participate in the STS Adult Cardiac Surgery Database.
- The Committee noted that this implies there may be little opportunity for improvement on the measure, especially considering that many of the remaining hospitals or surgery programs are already part of other systematic registries, such as those run by the Veteran's Affairs Health System or large insurers.
- Committee members recognized the importance of registry participation, agreeing that it is critical to ongoing quality improvement.
- The Committee also recognized that this measure addresses a high-priority area, in that cardiac surgery is a frequently-performed procedure that is associated with high severity of illness and high costs.
- However, Committee members also questioned whether a measure of registry participation was the most effective way to promote quality improvement and transparency of healthcare information, noting that measuring outcomes using registry data could provide important information on provider performance while also achieving the goal of increasing registry participation.
- The developer argued that this measure is necessary to convince hospital administrators to continue paying for participation in the database – NQF's endorsement is quite valued and provides justification for the costs associated with registry participation.
- The Committee recommended that developers consider bundling structural measures with other process or outcome measures, given the importance of database participation.
- Given the high rate of participation in the STS Cardiac Surgery Database, Committee members elected to consider this measure for reserve status.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 9; M- 12; L- 2; I- 1;** 2b. Validity: **H- 9; M- 12; L- 2; I- 1**

<u>Rationale</u>:

- The Committee inquired whether participation in registries other than the STS database would satisfy

0113 Participation in a Systematic Database for Cardiac Surgery
the measure's requirements. • The developer confirmed that as long as the registry or database is a multi-institutional effort with broad enough participation to allow for meaningful performance benchmarking, quality improvement, and public reporting, participation in such a registry would satisfy the measure. • To demonstrate reliability of the measure, the developers presented information on the STS's database audit process, which randomly selects participants on an annual basis to evaluate the accuracy, consistency, and comprehensiveness of data collection activities. • The developers also noted that an expert panel of thoracic surgeons had assessed and confirmed the face validity of the measure.
3. Feasibility: H- 12; M- 12; L- 1; I- 0 *(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)* Rationale: • Committee members noted that there are high costs associated with registry participation, including staff time for data collection and analysis in addition to registry fees. • However, the Committee considered the measure to be sufficiently feasible considering the importance of encouraging registry participation.
4. Use and Usability: H- 10; M- 10; L- 4; I-1 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The Committee expressed no concerns regarding the use and usability of this measure.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: Y- 14; N- 10 Rationale • Long-standing measure.
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • There were no public or member comments received for this measure.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients

Submission | Specifications

Description: Percent of patients aged 18 years and older undergoing cardiac surgery who had an order for or received preoperative prophylactic antibiotics recommended for the operation.

Numerator Statement: Number of patients undergoing cardiac surgery for whom there is documentation of an order for a first or second generation cephalosporin prophylactic antibiotic (e.g., cefazolin, cefuroxime, cefamandole), documentation that it is given preoperatively or in the event of a documented allergy an alternate antibiotic choice (e.g., vancomycin, clindamycin) is ordered and administered.

Denominator Statement: Number of patients undergoing cardiac surgery

Exclusions: List of exclusions is consistent with SCIP exclusions. This list is provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions.

Adjustment/Stratification: No risk adjustment or risk stratification

Level of Analysis: Facility, Clinician : Group/Practice

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Electronic Clinical Data : Registry

Measure Steward: The Society of Thoracic Surgeons

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **H- 22; M- 1; L- 0; I-0**; 1b. Performance Gap: **H- 1; M- 5; L- 16; I-1;** 1c. Impact: **H- 17; M- 3; L- 0; I-1**

Rationale:

- The Committee was satisfied that there is sufficient evidence showing that appropriate selection of antibiotic prophylaxis agents is associated with reduced rates of adverse outcomes, particularly mediastinitis.
- The Committee noted that based on performance information provided by the developer, which shows that approximately 99% of reporting providers are compliant, this measure may be "topped out" in terms of performance.
- Due to this small gap in performance, the measure did not pass the performance gap subcriterion. However, the Committee agreed that the measure should be considered for continued endorsement with reserve status.
- The Committee agreed that the measure addresses a high-impact area.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 17; M- 4; L- 0; I-0;** 2b. Validity: **H- 21; M- 1; L- 0; I-0**

Rationale:

- To demonstrate reliability of the measure, the developers presented information on the STS database audit process, through which participants are randomly selected on an annual basis to undergo an

0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients
evaluation of the accuracy, consistency, and comprehensiveness of data collection activities. • Data submitted by the developer show that in the 10% of STS Adult Cardiac Surgery Database participants subjected to an audit, there was 96.6% agreement between information submitted to the registry by participants and information re-abstracted by independent auditors. • The Committee generally found the reliability information submitted by the developers to be sufficient. • To demonstrate measure validity, the developers tested the stability of measure results over time. Because providers are unlikely to have significant fluctuations in performance from year to year, stability of measure scores over time may indicate that the measure is capturing an accurate signal of provider performance. • Testing results submitted by the developer showed that registry participants rated as 'high' or 'low' in one performance period (July 2011-June 2012) were more likely than other participants to receive that same rating in the following performance period (July 2012-June 2013, and that 'mid'-level performers were highly likely to remain in that category across time. • The Committee was satisfied with the validity of the measure.
3. Feasibility: H- 14; M- 9; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • The Committee was satisfied with the feasibility of the measure, noting the high rate of participation in the STS Cardiac Surgery Database.
4. Use and Usability: H- 14; M- 5; L- 3; I-1 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • Noting that performance on the measure has improved over time, the Committee generally agreed that the measure met the use and usability criterion.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 22; N-1**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • There were no public or member comments received for this measure.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0128 Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients

Submission | Specifications

Description: Percent of patients aged 18 years and older undergoing cardiac surgery whose prophylactic antibiotics were ordered to be discontinued OR were discontinued within 48 hours after surgery end time.

Numerator Statement: Number of patients undergoing cardiac surgery whose prophylactic antibiotics were ordered to be discontinued OR were discontinued within 48 hours after surgery end time.

Denominator Statement: Number of patients undergoing cardiac surgery

Exclusions: List of exclusions is consistent with SCIP exclusions. This list is provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions.

Adjustment/Stratification: No risk adjustment or risk stratification

Level of Analysis: Facility, Clinician : Group/Practice, Clinician : Individual

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Electronic Clinical Data : Electronic Health Record, Paper Medical Records, Electronic Clinical Data : Registry

Measure Steward: The Society of Thoracic Surgeons

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **H- 17; M- 5; L- 0; I-0**; 1b. Performance Gap: **H- 1; M- 4; L- 17; I- 1;** 1c. Impact: **H- 17; M- 6; L- 0; I-0**

Rationale:

- The Committee noted that many issues relevant to this measure had been discussed during the review of measure 0126, which had preceded this one. Accordingly, having resolved many of their questions already, the Committee moved to immediate votes on most of the criteria.
- Similar to measure 0126, this measure did not pass the Performance Gap subcriterion, but the Committee agreed that it should be considered for reserve status.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H- 17; M- 5; L- 1; I-0;** 2b. Validity: **H- 17; M- 5; L- 0; I-0**

Rationale:

- To demonstrate reliability of the measure, the developers presented information on the STS database audit process, through which participants are randomly selected on an annual basis to undergo an evaluation of the accuracy, consistency, and comprehensiveness of data collection activities.
- Data submitted by the developer show that in the 10% of STS Adult Cardiac Surgery Database participants subjected to an audit, there was 96.6% agreement between information submitted to the registry by participants and information re-abstracted by independent auditors.
- The Committee generally found the reliability information submitted by the developers to be sufficient.

0128 Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients
• To demonstrate measure validity, the developers tested the stability of measure results over time. Because providers are unlikely to have significant fluctuations in performance from year to year, stability of measure scores over time may indicate that the measure is capturing an accurate signal of provider performance. • Testing results submitted by the developer showed that registry participants rated as 'high' or 'low' in one performance period (July 2011-June 2012) were more likely than other participants to receive that same rating in the following performance period (July 2012-June 2013, and that 'mid'-level performers were highly likely to remain in that category across time. • The Committee was satisfied with the validity of the measure.
3. Feasibility: H- 14; M- 9; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • The Committee did not express any concerns about the measure's feasibility.
4. Use and Usability: H- 12; M- 8; L- 3; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The Committee did not express any concerns about the measure's use or usability.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 22; N-1**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • There were no public or member comments received for this measure.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0269 Timing of Prophylactic Antibiotics - Administering Physician
Submission | Specifications
Description: Percentage of surgical patients aged 18 years and older who receive an anesthetic when undergoing procedures with the indications for prophylactic parenteral antibiotics for whom administration of a prophylactic parenteral antibiotic ordered has been initiated within one hour (if fluoroquinolone or vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required) **Numerator Statement**: Surgical patients for whom administration of a prophylactic parenteral antibiotic ordered has been initiated within one hour (if fluoroquinolone or vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required).

0269 Timing of Prophylactic Antibiotics - Administering Physician

The antimicrobial drugs listed below are considered prophylactic antibiotics for the purposes of this measure:

- Ampicillin/sulbactam
- Aztreonam
- Cefazolin
- Cefmetazole
- Cefotetan
- Cefoxitin
- Cefuroxime
- Ciprofloxacin
- Clindamycin
- Erythromycin base
- Gatifloxacin
- Gentamicin
- Levofloxacin
- Metronidazole
- Moxifloxacin
- Neomycin
- Vancomycin

Denominator Statement: All surgical patients aged 18 years and older who receive an anesthetic when undergoing procedures with the indications for prophylactic parenteral antibiotics.

Exclusions: There are no denominator exclusions for this measure.

Adjustment/Stratification: No risk adjustment or risk stratification

Level of Analysis: Facility, Clinician : Group/Practice, Clinician : Individual

Setting of Care: Ambulatory Care : Ambulatory Surgery Center (ASC), Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Medical Records, Electronic Clinical Data : Registry

Measure Steward: American Society of Anesthesiologists (ASA)

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **H- 19; M- 2; L- 1; I-0**; 1b. Performance Gap: **H- 2; M- 12; L- 9; I-0;** 1c. Impact: **H- 2; M- 12; L- 9; I- 1**

<u>Rationale</u>:

- The Committee agreed that there is strong evidence linking appropriate timing of antibiotic administration to lower surgical site infection rates.
- In response to Committee questions, the developer clarified that the measure is inclusive of all clinicians administering antibiotics, including CRNAs and anesthesiologist assistants.
- The Committee noted that performance on the measure is high, deciding to consider this measure for

0269 Timing of Prophylactic Antibiotics - Administering Physician
reserve status. • Committee members discussed whether the field should move toward outcome measures in this area, given the resources needed to comply with measurement efforts and the current high rate of performance on this measure. • However, Committee members also recognized that this kind of measure can be helpful in quality improvement efforts at the individual clinician level. • The Committee generally agreed that the measure addresses a high-impact area.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 4; M- 17; L- 1; I- 0;** 2b. Validity: **H- 3; M- 17; L- 2; I- 0** <u>Rationale</u>: • The developer clarified that the measure applies at the facility as well as the clinician level. • To demonstrate reliability, the developers provided data from CMS and the National Anesthesia Clinical Outcomes Registry (NACOR) related to the rate of successful reporting on the measure. • The developer noted that performance on the measure is virtually identical in the CMS and NACOR samples, suggesting that the measure is scored and reported in a consistent way. • With respect to validity, the developers noted that NACOR is currently developing a process for auditing data elements • In addition, the developer provided the results of an expert panel's systematic review of this measure's face validity. • Panel members were asked to rate their agreement with the statement "scores obtained from the measure as specified will provide an accurate reflection of quality and can be used to distinguish good and poor quality", using a scale from 1 (strongly disagree) to 5 (strongly agree). • The average rating among the 25 panel members was 3.88. • The Committee was generally satisfied with the measure's reliability and validity.
3. Feasibility: H- 5; M- 16; L- 1; I- 0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* <u>Rationale</u>: • The Committee did not express any concerns about the measure's feasibility.
4. Use and Usability: H- 3; M- 14; L- 5; I- 0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* <u>Rationale</u>:

0269 Timing of Prophylactic Antibiotics - Administering Physician
• The Committee did not express any concerns about the measure's use and usability.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 16; N- 6**
6. Public and Member Comment : July 3, 2014 – August 4, 2014 Comments received: • Commenters sought clarification on the designation of "Reserve Status" and its potential impact. NQF response: • Measures placed in reserve status remain endorsed by NQF. The reserve status designation indicates that the measure is a credible, reliable and valid measure of quality but offers little opportunity for improvement, i.e., it is "topped out". At their July 7, 2014 meeting, the Consensus Standards Approval Committee (CSAC) revisited the reserve status policy to review the first three years' experience. The CSAC strongly supports continuation of the reserve status designation as a signal that the measures are still good measures that are endorsed by NQF but may not be useful in driving improvements in quality because performance rates are very high. The CSAC also indicated that the Surgery Committee used the reserve status designation as intended. In the absence of a reserve status option, the measure would have lost endorsement once the committee determined that it no longer met NQF criteria 1b (Opportunity for Improvement), which is a "must pass" criterion.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
Submission | Specifications
Description: Percentage of non-cardiac surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic parenteral antibiotics AND who received a prophylactic parenteral antibiotic, who have an order for discontinuation of prophylactic parenteral antibiotics within 24 hours of surgical end time **Numerator Statement**: Non-cardiac surgical patients who have an order for discontinuation of prophylactic parenteral antibiotics within 24 hours of surgical end time **Denominator Statement**: All non-cardiac surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic parenteral antibiotics AND who received a prophylactic parenteral antibiotic **Exclusions**: o Denominator Exception: Documentation of medical reason(s) for not discontinuing prophylactic antibiotics within 24 hours of surgical end time (eg, patients enrolled in clinical trials, patients with documented infection prior to surgical procedure of interest, patients who had other procedures requiring general or spinal anesthesia that occurred within three days prior to the procedure of interest [during separate surgical episodes], patients who were receiving antibiotics more than 24 hours prior to surgery [except colon surgery patients taking oral prophylactic antibiotics], patients who were receiving antibiotics within 24 hours prior to arrival [except colon surgery patients taking oral prophylactic antibiotics], patients who received urinary antiseptics only, other medical reason(s)) **Adjustment/Stratification**: No risk adjustment or risk stratification

0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)

Level of Analysis: Clinician : Group/Practice, Clinician : Individual
Setting of Care: Ambulatory Care : Ambulatory Surgery Center (ASC), Hospital/Acute Care Facility
Type of Measure: Process
Data Source: Administrative claims

Measure Steward: American Medical Association - Physician Consortium for Performance Improvement (AMA-PCPI)

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria
(1a. Evidence, 1b. Performance Gap, 1c. High Impact)
1a. Evidence: **H- 6; M- 15; L- 0; I- 0**; 1b. Performance Gap: **H- 0; M- 4; L- 18; I- 0;** 1c. Impact: **H- 11; M- 6; L- 4; I- 0**
Rationale:

- As evidence for the measure focus, the developer cited guidelines developed jointly by the American Society of Health-System Pharmacists (ASHP), the Infectious Diseases Society of America (IDSA), the Surgical Infection Society (SIS), and the Society for Healthcare Epidemiology of America (SHEA); the guidelines were published in 2013.
- The guideline's recommendation is that the duration of antimicrobial prophylaxis should be less than 24 hours for most procedure. This particular recommendation was not graded.
- The Committee agreed that prolongation of antibiotics is not associated with reduced rates of surgical site infections.
- Committee members observed that there is a 98% performance rate on the measure.
- Due to this small gap in performance, the measure did not pass the performance gap subcriterion. However, the Committee agreed that the measure should be considered for continued endorsement with reserve status.
- The Committee agreed that the measure addresses a high-impact area.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H- 6; M- 14; L- 1; I- 0;** 2b. Validity: **H- 0; M- 16; L- 5; I- 0**
Rationale:

- To demonstrate measure reliability, the developers provided the results of a signal-to-noise analysis.
- The developers used a beta-binomial model to estimate reliability of the measure when evaluated at the minimum number of quality reporting events and at the average number of quality reporting events.
- Reliability at the minimum number of events was 76.21%; reliability at the average number of events was 91.13%.

0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
• Committee members found the measure to have adequate reliability. • To demonstrate measure validity, the developers provided results from an expert panel's systematic assessment of face validity. • Panel members were asked to rate their agreement with the statement "scores obtained from the measure as specified will provide an accurate reflection of quality and can be used to distinguish good and poor quality", using a scale from 1 (strongly disagree) to 5 (strongly agree). • The average rating among voting panel members was 4.5. • The Committee was generally satisfied with the measure's validity.
3. Feasibility: H- 10; M- 10; L- 1; I- 0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* Rationale: • The Committee was satisfied with the measure's feasibility, noting its use of administrative claims data.
4. Use and Usability: H- 8; M- 11; L- 3; I- 0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The Committee did not express any concerns about the use or usability of the measure.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: Y- 17; N- 4
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • Commenters sought clarification on the designation of "Reserve Status" and its potential impact. NQF response: • Measures placed in reserve status remain endorsed by NQF. The reserve status designation indicates that the measure is a credible, reliable and valid measure of quality but offers little opportunity for improvement, i.e., it is "topped out". At their July 7, 2014 meeting, the Consensus Standards Approval Committee (CSAC) revisited the reserve status policy to review the first three years' experience. The CSAC strongly supports continuation of the reserve status designation as a signal that the measures are still good measures that are endorsed by NQF but may not be useful in driving improvements in quality because performance rates are very high. The CSAC also indicated that the Surgery Committee used the reserve status designation as intended. In the absence of a reserve status option, the measure would have lost endorsement once the committee determined that it no longer met NQF criteria 1b (Opportunity for Improvement), which is a "must pass" criterion.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X

0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
9. Appeals

0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
Submission | Specifications
Description: Surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision. Patients who received vancomycin or a fluoroquinolone for prophylactic antibiotics should have the antibiotics initiated within two hours prior to surgical incision. Due to the longer infusion time required for vancomycin or a fluoroquinolone, it is acceptable to start these antibiotics within two hours prior to incision time. **Numerator Statement**: Number of surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision (two hours if receiving vancomycin, in Appendix C, Table 3.8, or a fluoroquinolone, in Appendix C, Table 3.10). **Denominator Statement**: All selected surgical patients with no evidence of prior infection. **Exclusions**: Excluded Populations: • Patients less than 18 years of age • Patients who have a length of stay greater than 120 days • Patients whose Principal Procedure was on Table 5.25 • Patients who had a hysterectomy and a caesarean section performed during this hospitalization • Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes) • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest • Patients who had other procedures requiring general or spinal anesthesia that occurred within 3 days (4 days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay **Adjustment/Stratification**: No risk adjustment or risk stratification **Level of Analysis:** Facility, Population : National **Setting of Care:** Hospital/Acute Care Facility **Type of Measure**: Process **Data Source**: Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records **Measure Steward**: Centers for Medicare & Medicaid Services
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **H- 20; M- 1; L- 0; I-0**; 1b. Performance Gap: **H- 3; M- 3; L- 16; I-0;** 1c. Impact: **H- 16; M- 3; L- 3; I-0** <u>Rationale</u>:

0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
• Evidence provided by the developer included clinical practice guidelines by the American Society of Health-System Pharmacists (ASHP) citing that the optimal time for administration of preoperative doses is within 60 minutes before surgical incision. Guidelines cite five systematic reviews, including two multi-center studies. • The Committee agreed that there is strong evidence supporting appropriate timing of antibiotic prophylaxis. • National performance results for 2nd quarter of 2013 were 98.8 % that antibiotics were administered at the appropriate time. Committee members noted the high levels of performance and suggested moving to outcomes or composite measures.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 9; M- 14; L- 0; I- 0;** 2b. Validity: **H- 12; M- 11; L- 0; I- 0** <u>Rationale</u>: • The measure has been validated at the data element level through an audit by outside reviewers comparing the data collected by the facilities to data re-abstracted by auditors. • Agreement rates for all data elements were higher than 90%. The kappa statistic for the three dichotomous ("Other Surgeries", "Infection Prior to Anesthesia" and "Oral Antibiotics") data elements reflected moderate to almost perfect agreement even after kappa adjustments for agreement by chance alone. • The Committee expressed no concerns regarding the reliability and validity of this measure.
3. Feasibility: H- 18; M- 5; L- 0; I-0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* <u>Rationale</u>: • The Committee expressed no concerns regarding the feasibility of the measure, noting that the data is available via several methods, including EHRs and paper records.
4. Use and Usability: H- 20; M- 1; L- 2; I- 0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* <u>Rationale</u>: • The measure is currently used in the Hospital Inpatient Quality Reporting Program and the Joint Commission Accreditation program. • The Committee expressed no concerns about the use or usability of this measure.
5. Related and Competing Measures • No related or competing measures noted.

0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
Standing Committee Recommendation for Endorsement: **Y- 21; N-1**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • There were no public or member comments received for this measure.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0528 Prophylactic Antibiotic Selection for Surgical Patients
Submission | Specifications
Description: Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure). **Numerator Statement**: Number of surgical patients who received prophylactic antibiotics recommended for their specific surgical procedure. **Denominator Statement**: All selected surgical patients with no evidence of prior infection. Included Populations: An ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.10 for ICD-9-CM codes). AND An ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.01-5.08 for ICD-9-CM codes). **Exclusions**: • Patients less than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients whose Principal Procedure was on Table 5.25 • Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes) • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest • Patients who expired perioperatively • Patients who had other procedures requiring general or spinal anesthesia that occurred within 3 days (4 days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay • Patients who did not receive any antibiotics within the timeframe 24 hours before Surgical Incision Date and Time (i.e., patient did not receive prophylactic antibiotics) through discharge • Patients who received antibiotics prior to arrival and did not receive any antibiotics during this hospitalization • Patients who received ONLY oral or intramuscular (IM) antibiotics or the route was unable to be determined

0528 Prophylactic Antibiotic Selection for Surgical Patients
• Patients who received ALL antibiotics greater than 1440 minutes prior to Surgical Incision Date and Time **Adjustment/Stratification**: No risk adjustment or risk stratification **Level of Analysis:** Facility, Population : National **Setting of Care:** Hospital/Acute Care Facility **Type of Measure**: Process **Data Source**: Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records **Measure Steward**: Centers for Medicare & Medicaid Services
STANDING COMMITTEE MEETING [05/28/2014-05/29/2014] **1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>** (1a. Evidence, 1b. Performance Gap, 1c. High Impact) 1a. Evidence: **H- 8; M- 14; L- 1; I- 0**; 1b. Performance Gap: **H- 0; M- 5; L- 15; I- 1;** 1c. Impact: **H- 11; M- 9; L- 1; I- 0** <u>Rationale</u>: • The Committee agreed that the clinical practice guidelines presented by the developer support the measure in that there is a relationship between appropriate selection of antibiotic agents and the incidence of surgical site infection. • With a national rate of 99.1% being reported in 3,525 hospitals, the Committee was in agreement that this measure should be designated for reserve status given the minimal opportunity for improvement. • The Committee agreed that appropriate selection of antibiotics pre-operatively is an important process to ensure better outcomes, making this a high priority.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 11; M- 10; L- 0; I- 0;** 2b. Validity: **H- 12; M- 9; L- 0; I- 0** <u>Rationale</u>: • According to the Committee, the specifications were detailed and consistent with evidence. This measure used the CDAC-abstracted data which is considered “gold standard” for the purpose of this analysis. • Reliability testing was not conducted; the developers felt it was not necessary other than to establish content validity. • Validity testing was assessed at the critical data element for 17 of the 22 critical data elements, excluding the five (5) data elements related to antibiotics: Antibiotic name, route, date/time, and vancomycin by calcluating the kappa statistic for the dichotmous data elements which was proven to be moderately high.
3. Feasibility: H- 13; M- 8; L- 1; I- 0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* <u>Rationale</u>: • The Committee agreed that the measure was feasible to implement given its use of administrative

0528 Prophylactic Antibiotic Selection for Surgical Patients
claims and electronic clinical data. • The Committee agreed that the benefits of the measure appear to outweigh any potential unintended consequences.
4. Use and Usability: H- 15; M- 5; L- 2; I- 0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* Rationale: • The Committee noted that the measure is used in the Hospital Inpatient Quality Reporting (HIQR) program for public reporting and quality improvement with benchmarking. Additionally, it is currently used in the Joint Commission Accreditation for regulatory and accreditation programs.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 20; N- 3**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments received: • There were no public or member comments received for this measure.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
Submission | Specifications
Description: Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time. The Society of Thoracic Surgeons (STS) Practice Guideline for Antibiotic Prophylaxis in Cardiac Surgery (2006) indicates that there is no reason to extend antibiotics beyond 48 hours for cardiac surgery and very explicitly states that antibiotics should not be extended beyond 48 hours even with tubes and drains in place for cardiac surgery. **Numerator Statement**: Number of surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time (48 hours for CABG or Other Cardiac Surgery). **Denominator Statement**: All selected surgical patients with no evidence of prior infection. Included Populations: • An ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.10 for ICD-9-CM codes) AND • An ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.01-5.08 for ICD-9-CM codes)

0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time

Exclusions: Excluded Populations:

- Patients less than 18 years of age
- Patients who have a Length of Stay greater than 120 days
- Patients whose Principal Procedure was on Table 5.25
- Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes)
- Patients enrolled in clinical trials
- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission
- Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest
- Patients who expired perioperatively
- Patients who had other procedures requiring general or spinal anesthesia that occurred within three days (four days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay
- Patients who received urinary antiseptics only (as defined in Appendix C, Table 3.11)
- Patients with Reasons to Extend Antibiotics
- Patients who received antibiotics prior to arrival and did not receive any antibiotics during this hospitalization
- Patients who received ONLY antibiotics with the route unable to be determined (UTD)
- Patients who did not receive any antibiotics within the timeframe 24 hours before Surgical Incision Date and Time (i.e., patient did not receive prophylactic antibiotics) through discharge
- Patients who received ALL antibiotics greater than 1440 minutes prior to Surgical Incision Date and Time
- Patients who received ALL antibiotics greater than 3 days after Anesthesia End Date OR greater than 2 days after Anesthesia End Date for Principal Procedures on Tables 5.03-5.08
- Patients who received ALL antibiotics greater than 4320 minutes after Anesthesia End Time OR greater than 2880 minutes after Anesthesia End Time for Principal Procedures on Tables 5.03-5.08

Adjustment/Stratification: No risk adjustment or risk stratification

Level of Analysis: Facility, Population : National

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records

Measure Steward: Centers for Medicare & Medicaid Services

STANDING COMMITTEE MEETING [05/28/2014-05/29/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **H- 7; M- 10; L- 1; I- 5**; 1b. Performance Gap: **H- 0; M- 6; L- 17; I- 0;** 1c. Impact: **H- 14; M- 6; L- 1; I- 0**

<u>Rationale</u>:

- Evidence provided by the developer included as 2013 systematic review for antimicrobial prophylaxis surgery which provides a Level 1 recommendation to discontinue all antimicrobials at the end of surgery, based on review of 39 randomized clinical trials. The evidence also illustrates the concept that prolonged prophylaxis was associated with increased risk of acquired antimicrobial resistance.

0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
• The Committee agreed that the national rate for the 2nd quarter of 2013 was at 98.1 percent in 3,500 hospitals (244,000/ 248,000 cases), showing minimal opportunity for improvement, therefore designating for reserve status. • The measure addresses a significant public health problem affecting a high patient population.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 4; M- 17; L- 1; I-0;** 2b. Validity: **H- 4; M- 17; L- 1; I-1** <u>Rationale</u>: • According to the Committee, the specifications were detailed and consistent with evidence. • Reliability testing was not conducted; the developers felt it was not necessary other than to establish content validity. • Validity testing was conducted at the data element level, and showed strong agreement between data reported by providers and data re-abstracted by auditors, with moderate to high Kappa scores. • The Committee was generally satisfied with the reliability and validity of this measure.
3. Feasibility: H- 9; M- 11; L- 1; I- 0 *(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)* <u>Rationale</u>: • The Committee agreed the measure is feasible for implementation.
4. Use and Usability: H- 10; M- 8; L- 3; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* <u>Rationale</u>: • The Committee noted that the measure is used in the Hospital Inpatient Quality Reporting (HIQR) program for public reporting and quality improvement with benchmarking. • The Committee strongly believes that the practice of discontinuation of prophylactic antibiotics within 24 after a surgical procedure should be continued and supported, however quality improvement resources may be more effectively devoted elsewhere. Additionally, the Committee felt that moving towards measures that better demonstrated good antibiotic stewardship outcomes, instead of process measures, might lead to more significant quality improvement.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y- 18; N- 3**
6. Public and Member Comment: July 3, 2014 – August 4, 2014 • There were no public or member comments received for this measure.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X

0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
9. Appeals

0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
Submission | Specifications
Description: Percentage of surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second generation cephalosporin prophylactic antibiotic who had an order for first OR second generation cephalosporin for antimicrobial prophylaxis **Numerator Statement**: Surgical patients who had an order for first OR second generation cephalosporin for antimicrobial prophylaxis **Denominator Statement**: All surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second generation cephalosporin prophylactic antibiotic **Exclusions**: Denominator Exceptions: Documentation of medical reason(s) for not ordering a first OR second generation cephalosporin for antimicrobial prophylaxis (eg, patients enrolled in clinical trials, patients with documented infection prior to surgical procedure of interest, patients who were receiving antibiotics more than 24 hours prior to surgery [except colon surgery patients taking oral prophylactic antibiotics], patients who were receiving antibiotics within 24 hours prior to arrival [except colon surgery patients taking oral prophylactic antibiotics], other medical reason(s)) **Adjustment/Stratification**: No risk adjustment or risk stratification. **Level of Analysis:** Clinician : Group/Practice, Clinician : Individual **Setting of Care:** Ambulatory Care : Ambulatory Surgery Center (ASC), Hospital/Acute Care Facility **Type of Measure**: Process **Data Source**: Administrative claims **Measure Steward**: American Medical Association - Physician Consortium for Performance Improvement (AMA-PCPI)
STANDING COMMITTEE MEETING [05/28/2014- 05/29/2014] **1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>** (1a. Evidence, 1b. Performance Gap, 1c. High Priority) 1a. Evidence: **H- 15; M- 8; L- 0; I-0**; 1b. Performance Gap: **H- 2; M- 12; L- 9; I-0;** 1c. High Priority: **H- 2; M- 12; L- 9; I-0** <u>Rationale</u>: • As evidence for the measure focus, the developer cited guidelines developed jointly by the American Society of Health-System Pharmacists (ASHP), the Infectious Diseases Society of America (IDSA), the Surgical Infection Society (SIS), and the Society for Healthcare Epidemiology of America (SHEA); the guidelines were published in 2013. • The guideline recommends the use of cefazolin as an antimicrobial therapy for most procedures. • The guideline's recommendations on antibiotic prophylaxis are graded separately by procedure. Recommendations for 28 procedures received 'A' grades (the highest level of evidence in the grading

0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
system); recommendations for four procedures received 'B' grades (a moderate level of evidence); and recommendations for 9 procedures received 'C' grades (the lowest level of evidence). • The Committee was generally satisfied with the evidence for this measure. • The developer cited recent confidential data from CMS indicating that the average performance on this measure in 2012 was 92.9%. • The Committee generally agreed that the measure addresses a high-priority area and that there is opportunity for improvement.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H- 7; M- 14; L- 2; I-0;** 2b. Validity: **H- 3; M- 15; L- 5; I-0** <u>Rationale</u>: • To demonstrate measure reliability, the developers provided the results of a signal-to-noise analysis. • The developers used a beta-binomial model to estimate reliability of the measure when evaluated at the minimum number of quality reporting events and at the average number of quality reporting events. • Reliability at the minimum number of events was 0.8875; reliability at the average number of events was 0.9677. • Committee members found the measure to have adequate reliability. • To demonstrate measure validity, the developers provided results from an expert panel's systematic assessment of face validity. • Panel members were asked to rate their agreement with the statement "scores obtained from the measure as specified will provide an accurate reflection of quality and can be used to distinguish good and poor quality", using a scale from 1 (strongly disagree) to 5 (strongly agree). • The average rating among the 21 panel members was 4.05. • The Committee was generally satisfied with the measure's validity.
3. Feasibility: H- 6; M- 12; L- 3; I-0 *(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)* <u>Rationale</u>: • Given the use of administrative claims data, the Committee was satisfied with the measure's feasibility.
4. Use and Usability: H- 1; M- 10; L- 12; I-0 *(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)* <u>Rationale</u>: • Committee members noted that a relatively low proportion of eligible providers report on this measure through the Physician Quality Reporting System (PQRS).

0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
• The developer responded that this is more likely a function of the PQRS program design—its requirements, rewards, etc.—than a reflection of perceptions toward or attributes of the measure itself.
5. Related and Competing Measures • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: Y- 10; N-13 Rationale • The Committee did not reach consensus on the measure (both sides of the vote having fallen within the 40-60% range). • In accordance with NQF's current guidance, the measure will be posted for public comment with the status of "consensus not yet reached"; following the public comment period, the Standing Committee will decide whether reconsideration is warranted, taking submitted comments into consideration.
6. Public and Member Comment: July 3, 2014 – August 4, 2014 Comments Received: • NQF received 4 comments on this measure, many of which were supportive, with commenters indicating that strong evidence links proper selection of first or second generation cephalosporin to the prevention of surgical site infections (SSIs). • Several comments addressed the specific concerns raised by the Committee during the in-person meeting. These included: ○ Concerns that the numerator did not reflect current best practices regarding antibiotic prophylaxis in colorectal surgery and seeking further clarification. ○ Concerns with the Usability and Use criteria, stating that there seems to be a low percentage (8.9%) of eligible professionals who were able to successfully report on the measure in the PQRS program. Developer's response: • We recognize that the use of a first or second generation cephalosporin would not be appropriate for prophylaxis for some colorectal procedures. For those scenarios where first or second generation cephalosporins are not appropriate for prophylaxis, we encourage providers to use the medical reason exception, which will allow for clinical judgment on a patient-by-patient basis. We have chosen to focus our measure on the use of first and second generation cephalosporins since they are the most broadly-recommended agents for antimicrobial prophylaxis and they allow for us to include the broadest range of procedures in the measure. The inclusion of an antibiotic that is appropriate for a narrower range of procedures in the numerator would require us to limit the procedures included in the denominator, which would subsequently narrow the scope of the measure. Committee's Response: • The Committee reviewed the comments and determined that, while this measure is important, there is minimal opportunity for improvement in performance. • After further discussion, the Committee voted to recommend the measure with a designation of reserve

0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
status. The voting results are below: ○ Yes-20 ; No- 1 The measure is recommended for endorsement and pursuant with NQF process will be posted for NQF member voting.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals