NQF-endorsed Measures for Surgical Procedures

DRAFT REPORT FOR COMMENT

July 3, 2014

NATIONAL QUALITY FORUM

This report is funded by the Department of Health and Human Services under contract HHSM-500-2012-00009I Task 00.0

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NQF-endorsed measures for Surgical Procedures: 2014

DRAFT REPORT

Executive Summary

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.

With 131 measures the Surgery portfolio is one of NQF's largest. These measures address subjects such as perioperative safety, care coordination, cardiac surgery, vascular surgery, abdominal and colorectal surgery, and a range of other clinical or procedural sub-topics. Many of the measures in the portfolio currently are used in public and/or private accountability and quality improvement programs. However, significant gaps remain in the topic area of surgical measurement. There is also a recognized need to harmonize related measures across sites and settings of care.

In addition, this project is one of the first to transition to the use of Standing Steering Committees. The 25-member Surgery Standing Committee oversees the NQF Surgery measure portfolio, evaluating both newly-submitted and previously-endorsed measures against NQF's measure evaluation criteria, identifying gaps in the measurement portfolio, providing feedback on how the portfolio should evolve, and serving on any ad hoc or expedited projects in their designated topic areas.

On May 28-29, 2014, the Surgery Standing Committee evaluated 9 new measures and 20 measures undergoing maintenance review against NQF's standard evaluation criteria. Twenty of these measures were recommended (with 8 recommended for reserve status) for endorsement by the Committee, seven were not recommended, one did not reach consensus, and one was withdrawn by the developer. The measures are listed by recommendation status below:

Recommended:

- 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

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
- 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

Consensus Not Reached:

- 0268: Perioperative Care Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin

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

Brief summaries of the measures currently under review are included in the body of this report; detailed summaries of the Committee's discussion and ratings of the criteria are included in Appendix A.

Introduction

Patients undergo surgery to repair an injury, relieve symptoms, restore function, remove a diseased organ or replace an anatomical part of the body. Many surgeries are planned, though several types of surgery occur under emergency conditions such as trauma, fracture, and acute infection. The majority of hospitalizations (63% in 20103) involve a surgical procedure. The rate of surgical procedures is increasing annually with 51.4 million inpatient surgeries were performed in the United States in 2010 and 53.3 million procedures performed in ambulatory surgery centers.[1] Ambulatory surgery centers are the fastest growing provider type participating in Medicare.[2]

Surgery can be a daunting prospect for patients, and more consumers are seeking out information and turning to public reports of quality measures to make decisions about surgical care. In 2011, the Agency for Healthcare Research and Quality (AHRQ) studied users of public web sites and publicly reported data. AHRQ found that the top medical conditions of interest to consumers using public web sites are heart disease (27%) and surgery (23%).[3] For patients and families, the important aspects of quality are the likelihood of surgical success—i.e., the surgery achieving its intended outcome—and avoidance of complications.

Surgical Care

Care of a patient undergoing surgery may require many types of services, including pre-operative evaluation, appropriate recommendation for surgery, counseling of risks and informed consent, patient education, pre-operative medical evaluation, hospital admission, preparation of the surgical site, anesthesia, performance of the procedure by the surgical team (surgeons, nurses and technicians), immediate post-operative/post-anesthesia recovery, intensive care, general post-operative care including wound care and resumption of normal functioning (eating, ambulation), post-acute care, rehabilitation, and home health care. High quality care during each step is necessary for the overall success of the operation.

Recent publications have identified ongoing concerns with the quality of surgical care:

- Among Medicare patients, nearly one in seven patients hospitalized for a major surgical procedure is readmitted to the hospital within 30 days after discharge.[4]
- Medicare payments around episodes of inpatient surgery are substantially higher at hospitals with high complication rates.[5]
- Despite overall improvement in surgical mortality, patients from low-income areas had worse surgical outcomes than those from high-income areas for nine of twelve measures in both 2000 and 2009.[6]

National Quality Strategy

The National Quality Strategy (NQS) serves as the overarching framework for guiding and aligning public and private efforts across all levels (local, State, and national) to improve the quality of health care in the U.S.

The NQS establishes the "triple aim" of better care, affordable care, and healthy people/communities, focusing on six priorities to achieve those aims: *Safety, Person and Family Centered Care, Communication and Care Coordination, Effective Prevention and Treatment of Illness, Best Practices for Healthy Living,* and *Affordable Care*.[7]

Improvement efforts for surgical care are consistent with the NQS triple aim and align with several of the NQS priorities, including:

- Making care safer by reducing harm caused in the delivery of care. Making patients safe by global use of evidence-based patient safety practices to reduce adverse events and complications are a cornerstone of high quality surgical care.
- Ensuring that each person and family is engaged as partners in their care. Family support and patient education in self-care during the preoperative and post-operative timeframes significantly contributes to successful surgical outcomes.
- Promoting effective communication and coordination of care. As noted above, peri-operative care encompasses many services and practitioners that must coordinate care and effectively communicate with each other to ensure a successful and efficient surgical outcome.

Trends and Performance

National Healthcare Quality Report

The 2013 National Healthcare Quality and Disparities Report[8] identifies several measures of the quality of surgical care:

- From 2008 to 2010, there were no statistically significant changes in the overall risk-adjusted rate of postoperative sepsis (severe infection).
- From 2006-2008 to 2011, surgical site (wound) infections reported to the National Healthcare Safety Network decreased 17%.
- From 2009 to 2011, there were no statistically significant changes in the overall rate of postoperative catheter-associated urinary tract infections.

The 2013 National Healthcare Quality Report indicates that several important dimensions of quality that are not currently measured are “measures of the extent to which pain is reduced or function improves for patients undergoing back surgery, total joint replacement, or other orthopedic procedures.”

Surgical Care Improvement Project (SCIP)

SCIP is a national quality partnership of organizations interested in improving surgical care by significantly reducing surgical complications. SCIP has developed many performance measures used by CMS and the Joint Commission. After several years, performance has improved significantly and the measures have little opportunity for further improvement; i.e., they are “topped out”. In 2014, SCIP Inf-10, Perioperative temperature management was retired for being topped out. In the recently released

proposed rule for the 2015 Inpatient Payment System (IPPS) CMS indicates plans to remove several topped out, chart-abstracted measures.

Surgery Measure Evaluation: Refining the Evaluation Process

Changes to the Consensus Development Process (CDP)—transitioning to Standing Steering Committees and Committee voting—have been incorporated into the ongoing maintenance activities for the Surgery portfolio. These changes are described below.

Standing Steering Committee

In an effort to remain responsive to its stakeholders' needs, NQF is constantly working to improve the CDP. Volunteer, multi-stakeholder steering Committees are the central component of the endorsement process, and the success of the CDP projects is due in large part to the participation of its Steering Committee members. In the past, NQF initiated the Steering Committee nominations process and seated new project-specific Committees only when funding for a particular project had been secured. Seating new Committees with each project not only lengthened the project timeline, but also resulted in a loss of process continuity and consistency because Committee membership changed—often quite substantially—over time.

To address these issues in the CDP, NQF is beginning to transition to the use of Standing Steering Committees for various topic areas. These Standing Committees will oversee the various measure portfolios; this oversight function will include evaluating both newly-submitted and previously-endorsed measures against NQF's measure evaluation criteria, identifying gaps in the measurement portfolio, providing feedback on how the portfolio should evolve, and serving on any ad hoc or expedited projects in their designated topic areas.

The Surgery Standing Committee currently includes 25 members (see Appendix D). Each member has been randomly appointed to serve an initial two- or three- year term, after which he/she may serve a subsequent 3-year term if desired.

Voting by the Standing Committee

In response to stakeholder questions about determining consensus, in 2012 NQF established a Task Force to re-consider methods of voting throughout the CDP to determine consensus. The Task Force recommended a change from simple majority approval to the following:

> A measure is recommended for endorsement by the Standing Committee when the vote margin on all major criteria (Importance, Scientific Acceptability) and overall is greater than 60% of voting members in favor of endorsement. A measure is not recommended for endorsement when the vote margin on any major criteria or overall is less than 40% of voting members in favor of endorsement. The Standing Committee has not reached consensus if the vote margin on any major criterion or overall is between 40%-60% in favor of endorsement.

When the Standing Committee has not reached consensus, all measures for which consensus was not reached will be put out for NQF Member and public comment. The Standing Committee will consider the comments and re-vote on measures where consensus was not reached. After the re-vote, all measures that are recommended (>60% in favor of endorsement) by the Standing Committee or where consensus has not been reached (between 40%-60% in favor of endorsement) will be put out for NQF Member vote.

NQF Portfolio of performance measures for Surgical Procedures

NQF has endorsed at least 131 measures related to surgical care (see Appendix B). These measures address subjects such as perioperative safety, care coordination, cardiac surgery, vascular surgery, abdominal and colorectal surgery, and a range of other clinical or procedural sub-topics. For the purposes of maintenance, NQF's Surgery Standing Committee is responsible for 69 measures: 26 process measures, 36 outcome measures, six structural measures, and one composite measure (see table below).

NQF Surgery Portfolio of Measures

Subtopic	Process	Outcome	Structure	Composite	Total
Abdominal and Colorectal Surgery	0	5	0	0	**5**
Adverse Outcomes	0	3	0	0	**3**
Antibiotic Prophylaxis	9	0	0	0	**9**
Cardiac Surgery	7	12	1	1	**21**
Genitourinary and Gynecological Surgery	3*	0	0	0	**3***
Orthopedic Surgery	0	2	0	0	**2**
Pediatric Surgery	0	4	3	0	**7**
Perioperative Care	3	1	0	0	**4**
Thoracic Surgery	1	2	2	0	**5**
Vascular Surgery	2	7	0	0	**9**
VTE Prophylaxis	1	0	0	0	**1**
Total	**26**	**36**	**6**	**1**	**69**

*Three measures related to genitourinary or gynecological surgery were submitted as part of NQF's two-stage endorsement pilot project. These three measures were approved as concepts after evaluation against the Importance to Measure and Report criterion; they are being evaluated against the Scientific Acceptability, Usability, and Feasibility criteria as part of this project.

The remaining 62 measures have been assigned, for various reasons, to other endorsement projects. These include healthcare-associated infection measures (Patient Safety project), care coordination measures (Care Coordination project), imaging efficiency measures (Efficiency project), and a variety of condition- or procedure-specific outcome measures (Cardiovascular, Cancer, Renal, HEENT, etc.) Endorsement of measures by NQF is valued not only because the evaluation process itself is both

rigorous and transparent, but also because evaluations are conducted by multi-stakeholder Committees comprised of clinicians and other experts from hospitals and other healthcare providers, employers, health plans, public agencies, community coalitions, and patients—many of whom use measures on a daily basis to ensure better care. Moreover, NQF-endorsed measures undergo routine "maintenance" (i.e., re-evaluation) to ensure that they are still the best-available measures and reflect the current science. Importantly, legislative mandate requires that preference be given to NQF-endorsed measures for use in federal public reporting and performance-based payment programs. NQF measures are also used by a variety of stakeholders in the private sector, including hospitals, health plans, and communities.

Over time, and for various reasons, some previously-endorsed surgery measures have been dropped from the full NQF portfolio. In some cases, measure stewards elect to withdraw their measures from consideration; other measures have lost endorsement upon maintenance review. Loss of endorsement can occur for many different reasons including—but not limited to—a change in evidence without an associated change in specifications, universally high performance on a measure signifying no further opportunity for improvement, and endorsement of a superior measure.

NQF's portfolio of surgery measures is currently organized by topic area. However, the Standing Committee and other stakeholders are encouraged to consider other measurement domains, such as measure type (e.g. process, outcome, patient-reported, etc.), care setting, data source, clinical area, or other relevant factors, for the purposes of identifying and highlighting gaps in measurement related to surgery.

Use of measures in the portfolio

Many of the measures in the Surgery portfolio are in use in at least one federal program (see Appendix C). In addition, a number of NQF-endorsed surgery measures have been used as part of state, regional, and community measurement initiatives, including various Aligning Forces for Quality (AF4Q) community alliances.

Improving NQF's Surgery Portfolio

Committee input on gaps in the portfolio

During their discussions the Committee identified numerous areas where additional measure development is needed, including:

- Various specialty areas that are still in their infancy in terms of quality measurement, including orthopedic surgery, bariatric surgery, neurosurgery, and others.
    - With respect to bariatric surgery, some Committee members expressed an interest in measures of patient weight loss and maintenance of that weight loss over time.
- Measures of adverse outcomes that are structured as "days since last event" or "days between events"; this could help address some of the concerns about measuring low-volume events.
- Measures around functional status or return to function after surgery, as well as other patient-centered and patient-reported outcomes like patient experience.

In addition to these areas, the Committee held discussion about the next generation of measures, considering possible approaches to measurement in the future. Committee members observed that there is increasing integration of care across teams of healthcare providers, and as a result there is a growing need for shared accountability measures. Relatedly, Committee members expressed a desire to see more composite measures to allow for examination of the performance of individual clinicians, teams, or institutions across domains, and considered the possibility of "composites of composites" that could capture information on relevant structures, processes, and outcomes to paint a picture of the overall quality of care delivered by a provider. In addition, the Committee noted that surgical quality can have a great deal to do with patient and provider decision-making, and expressed an interest in seeing more measures around decision-making and appropriateness of care.

Measures in the "pipeline"

NQF recently launched a *Measure Inventory Pipeline*—a virtual space for developers to share information on measure development activities. Developers can use the Pipeline to display data on current and planned measure development and to share successes and challenges. Information shared via the Pipeline is available in real time and can be revised at any time. NQF expects that developers will use the Pipeline as a tool to connect to, and collaborate with, their peers on measurement development ideas.

Currently, no measures related to surgical procedures have been submitted to the Pipeline.

Surgery Measure Evaluation

On May 28-29, 2014 the Surgery Standing Committee evaluated 9 new measures and 20 measures undergoing maintenance review against NQF's standard evaluation criteria. To facilitate the evaluation, the Committee and candidate standards were divided into four workgroups for preliminary review of the measures against the evaluation sub-criteria prior to consideration by the entire Standing Committee. The Committee's discussion and ratings of the criteria are summarized in the evaluation tables beginning on page 30.

Surgery Measure Review Summary

	Maintenance	New	Total
Measures under consideration	23	9	32
Measures withdrawn from consideration	4	0	4
Measures recommended	7	5	12
Measures recommended with reserve status	8	0	8

	Maintenance	New	Total
Measures where consensus is not yet reached	1	0	1
Measures not recommended	3	4	7
Reasons for not recommending	Importance – 1 Scientific Acceptability – 1 Overall – 1	Importance – 1 Scientific Acceptability – 3 Overall – 0	

Comments Received prior to Committee evaluation

NQF solicits comments on endorsed measures on an ongoing basis through the Quality Positioning System (QPS). In addition, NQF has begun soliciting comments prior to the evaluation of the measures via an online tool located on the project webpage. For this evaluation cycle, the pre-evaluation comment period was open from April 15- May 2, 2014 for all measures under review. All submitted comments were provided to the Committee prior to their initial deliberations held during the workgroups calls.

A total of 4 pre-evaluation comments were received (see Appendix E). All four comments provided from the provider council were supportive. Much of the commentary noted challenges related to data collection based on current administrative practices of bundling CPT coding and its impact on measure specifications.

Overarching Issues

During the Standing Committee's discussion of the measures, several overarching issues emerged that were factored into the Committee's ratings and recommendations for multiple measures and are not repeated in detail with each individual measure:

Reserve status

The Committee reviewed nine measure addressing peri-operative antibiotic prophylaxis. These measures have been in use for several years and are reporting high levels of performance. In general the measures meet all criteria except *1b. Opportunity for Improvement*. In 2010 the NQF Board of Directors approved a category of endorsement called "Reserve status" for measures that meet all other criteria expect for opportunity for improvement. These measures have typically been successful in driving quality improvement. The Committee asked about the implications for "reserve status" and what happens to these measures.

Low-volume adverse events

The Committee reviewed several measures of adverse outcomes that occur with low frequency but are very severe events. Committee members discussed the value of this type of measure in general, noting the argument that such measures may yield information of limited value in differentiating provider

performance given the rarity of the events. However, the Committee agreed that the events in question (e.g., postoperative stroke) have such a devastating impact on patients that they are worth measuring, and suggested that it is important for healthcare consumers to have the ability to see when and where these events are occurring. Committee members also noted that some of these measures are included as part of a composite, which by aggregating multiple measure results into a single score increases sample size and addresses some of the concerns about low-incidence outcomes.

Structural measures

The Committee reviewed a number of structural measures, defined by NQF as measures that assess features of a healthcare organization or clinician relevant to the capacity to provide healthcare. Among the structural measures considered by the Committee were several registry participation measures, along with a measure of procedure volume and a measure of accreditation status. The Committee noted that some registry participation measures have been important in encouraging hospitals to begin submitting data to multi-institutional registries, which Committee members acknowledged is important to quality improvement efforts and an activity worth fostering. However, some questioned whether the time for these measures had passed; observing that outcome measures based on registry data may be just as effective in incentivizing registry participation. The Committee recognized that there may be more of a need for structural measures in some surgical areas than others, given the relative advancement of quality activities in those areas.

Summary of Measure Evaluation

The following brief summaries of the measures and the evaluation highlight the major issues that were considered by the Committee. Details of the Committee's discussion and ratings of the criteria are included in Appendix A.

Peri-operative Care

Two previously NQF-endorsed measures addressing peri-operative care were evaluated. One was recommended for continued endorsement and one was not recommended.

0178: Improvement in Status of Surgical Wounds (Centers for Medicare & Medicaid Services): Recommended

Description: *Percentage of home health episodes of care during which the patient demonstrates an improvement in the condition of surgical wounds****; Measure Type:*** *Outcome;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Home Health;* ***Data Source:*** *Electronic Clinical Data: Electronic Clinical Data*

This risk-adjusted outcome measure focuses on nursing assessment of wound healing using standardized criteria from the Wound, Ostomy and Continence Nurses Society (WOCN) from the start to finish of an episode of home health care. The measure has been endorsed since 2009 and uses data from the OASIS data set. CMS publicly reports this measure on Home Health Compare. Recent data reported a mean result of 87.9% with an inter-centile range (90^{th}-10^{th}) of 9.3%. Measure results stratified by age, gender, race and agency size did not show much variation though there is somewhat lower results for patients aged < 65 years and very small agencies. Committee members asked about the

reliability of different observers for the beginning and endpoints and concluded the WOCN criteria have been shown to be reproducible.

0453: Urinary Catheter Removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of Surgery being Day Zero (Developer): Not Recommended

Description: *Percentage of Surgical patients greater than 18 years of age with urinary catheter removed on Postoperative Day 1 or Postoperative Day 2 with day of surgery being day zero.****; Measure Type:*** *Process;* ***Level of Analysis:*** *Facility, Population: National;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Health Record*

This process measure from the SCIP program (SCIP-Inf-9) has been endorsed since 2009 and is reported on Hospital Compare. The measure requires chart abstraction and allows for exclusions of a documented reason for leaving a catheter in place. Current national performance (2nd quarter of 2013) is 97.7%. Committee members were concerned that this measure is simply a documentation measure and that the denominator included procedures that shouldn't need catheters for any length of time. Committee members noted that 17.6% patients were excluded and asked whether the reasons are being tracked. The developers indicated that the list of procedures is being updated and tracking of reasons for exclusions is not done, but also reported that CMS was moving away from chart-based measures. Committee members asked about rates of re-insertion of catheters – no data is available for this possible unintended consequence. As previously noted, CMS has proposed in the 2015 Inpatient Payment System (IPPS) to remove several topped out, chart-abstracted measures including this measure (SCIP-Inf-9.) While the Committee considered the measure for possible reserve status, it did not recommend the measure for continued endorsement because of concerns with validity of the measure regarding the exclusions (particularly perineal, rectal, and gynecologic procedures).

Peri-operative Care – Antibiotic Prophylaxis

Nine previously NQF-endorsed measures addressing peri-operative antibiotic prophylaxis were reviewed. Seven of the nine measures were recommended for reserve status; for one measure consensus was not reached and one measure was not recommended for continued endorsement.

0528: Prophylactic Antibiotic Selection for Surgical Patients (Centers for Medicare and Medicaid Services): Recommended with Reserve Status

Description: *Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure)****; Measure Type:*** *Process;* ***Level of Analysis:*** *Facility, Population: National;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Health Record, Paper Medical Records*

This process measure was originally endorsed in 2003 in NQF's first measure set for hospital care[9] and is publicly reported on CMS's Hospital Compare website. National performance results for 2nd quarter of 2013 are 99.1% that appropriate antibiotics were administered. Committee members agreed that the process of care for administration of prophylactic antibiotics has been "hardwired" into operating room procedures such that current performance is very high. The Committee rated the measure moderate to high on all criteria except *1b. Opportunity for Improvement*. The majority of the Committee agreed that

this measure should be placed on Reserve status. In the recently released proposed rule for the 2015 Inpatient Payment System (IPPS) CMS proposes to remove this "topped out, chart-abstracted measure".

0268: Perioperative Care: Selection of Prophylactic Antibiotic: First or Second Generation Cephalosporin (AMA PCPI): Consensus not reached

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****; Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician: Individual, Clinician: Group/Practice;* ***Setting of Care:*** *Ambulatory Care: Ambulatory Surgery Center (ASC)* ***Data Source:*** *Administrative Claims*

This clinician-level process measure was endorsed in 2008 and is used in CMS's Physician Quality Reporting System (PQRS). This measure includes more than 200 procedures for which antibiotics are indicated (a larger denominator than the hospital-level measure (NQF 528)). The national performance in PQRS in 2010 was 93.7% for clinicians submitting data (92.9% in 2012). This measure captures whether the appropriate antibiotic was ordered or administered. The data source for PQRS is administrative data using CPT II codes; exception rate was 4.96% in 2010. Participation in PQRS is low overall at about 9.9% of eligible professionals. The Committee rated the measure low on *Usability and Use* because of the low reporting rate in PQRS and the significant delay in receiving timely feedback on measure performance. The Committee did not reach consensus on whether to recommend the measure for continued endorsement.

0126: Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients (The Society for Thoracic Surgeons): Recommended with Reserve Status

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****; Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician : Group/Practice, Facility;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Registry*

This process measure uses data from the STS Adult Cardiac Surgery database. In 2013, STS database participants (hospitals or surgeon groups) had a 99.2% performance rate on appropriate ordering and administering of antibiotics. This measure is not publicly reported. Committee members asked why children were excluded. The developer noted that this measure is based on the "Adult Cardiac Surgery" database. The Committee rated the measure moderate to high on all criteria except *1b. Opportunity for Improvement*. The majority of the Committee agreed that this measure should be placed on reserve status.

0527: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision (Centers for Medicare and Medicaid Services): Recommended with Reserve Status

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****; Measure Type:*** *Process;* ***Level of Analysis:*** *Facility, Population: National;* ***Setting of***

Care: *Hospital/ Acute Care Facility;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Health Record, Paper Medical Records*

This process measure (along with NQF 528 and NQF 529) was originally endorsed in 2003 in NQF's first measure set for hospital care,[10] and is publicly reported on CMS's Hospital Compare website. National performance results for the 2nd quarter of 2013 show a performance rate of 98.8 % on appropriate timing of antibiotic administration. Committee members noted the high levels of performance and suggested moving to outcomes or composite measures. The Committee recommended this measure for reserve status, suggesting that quality improvement resources may be more effective elsewhere.

0269: Timing of Prophylactic Antibiotics- Administering Physician (American Society of Anesthesiologists): Recommended with Reserve Status

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)****; Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician: Individual, Clinician: Group/Practice, Facility;* ***Setting of Care:*** *Ambulatory Care: Ambulatory Surgery Center (ASC);* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Clinical Data, Electronic Clinical Data: Electronic Health Record, Electronic Clinical Data: Registry, Paper Medical Records*

This process measure was endorsed in 2008 and is reported to CMS's PQRS program and the Anesthesia Quality Institute's National Anesthesia Clinical Outcomes Registry (NACOR). This measure includes more procedures than the hospital-level measure (NQF 527) and current performance has improved little over three years from 93.7% to 94.9%. Approximately 50% of anesthesiologists, nurse anesthetists and anesthesiologists assistants report on this measure. Committee members also suggested there is no reason to exclude children from this measure. Developer could not provide any data when Committee members asked whether there was cross-checking of hospital and clinician reports. The Committee recommended this measure for reserve status due to the high performance and again noted that resources may be better used elsewhere.

0264: Prophylactic Intravenous (IV) Antibiotic Timing (ASC Quality Collaboration): Not Recommended

Description: *Rate of ASC patients who received IV antibiotics ordered for surgical site infection prophylaxis on time****; Measure Type:*** *Process;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Ambulatory Care: Ambulatory Surgery Center (ASC);* ***Data Source:*** *Paper Medical Records, Other*

This process measure for ambulatory surgery centers is publicly reported in aggregate on the ASC Quality Collaboration website. The performance of 1181 facilities in 2013 was 99%. The measure is also reported on Hospital Compare (OP-6); current national average performance is 98%. The Committee noted that this measure is not specified for procedures for which antibiotics are indicated. The measure assesses whether antibiotics are given at the appropriate time if ordered. Committee members also questioned the specification for only IV antibiotics and noted that some of the included antibiotics are not appropriate for the outpatient setting. The evidence presented only related to inpatients and not to

the ambulatory surgery setting. The Committee did not recommend this measure for continued endorsement.

0529: Prophylactic Antibiotic Discontinued Within 24 Hours after Surgery End Time (Centers for Medicare and Medicaid Services): Recommended with Reserve Status

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****; Measure Type:*** *Process;* ***Level of Analysis:*** *Facility, Population: National;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Health Record, Paper Medical Records*

This process measure (along with NQF 527 and NQF 528) was originally endorsed in 2003 in NQF's first measure set for hospital care[11] and is publicly reported on CMS's Hospital Compare website. Measure developers explained that there is no evidence that continuation of antibiotics beyond 24 hours reduces surgical site infection. This measure is intended to foster antibiotic stewardship, i.e., "coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy, and route of administration."[12] National performance in 2013 was 98.1%. Significant improvement has been made since baseline results in 2001 of 40%. Due to the high levels of performance, the Committee recommended this measure for reserve status.

0271: Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-cardiac Procedures) (AMA PCPI): Recommended with Reserve Status

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

This clinician-level process measure was endorsed in 2008 and is reported to CMS's PQRS program. The average result in 2010 was 99.56%. This is much improved from 2008 when the average result was 44%. Committee members noted that the measure specifies an order for discontinuation, not the actual stopping of the antibiotic. Due to the high levels of performance, the Committee recommended this measure for reserve status.

0128: Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients (The Society for Thoracic Surgeons): Recommended with Reserve Status

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****; Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician: Individual, Clinician: Group/Practice, Facility;*

Setting of Care: *Hospital/ Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Electronic Health Records, Electronic Clinical Data: Registry, Paper Medical Records*

Similar to measure 0126 (described above), this process measure uses data from the STS Adult Cardiac Surgery database. The average results of STS database participants (hospitals or surgeon groups) in 2013 were 99% that antibiotics were appropriately discontinued. This measure is not publicly reported. The Committee rated the measure moderate to high on all criteria except *1b. Opportunity for Improvement*. The majority of the Committee agreed that this measure should be placed on reserve status.

Peri-operative antibiotics - Related and Competing measures

Nine related and competing measures for peri-operative antibiotic prophylaxis were identified as related or competing under NQF's decision rules for identifying competing and related measures , but because most measures were recommended for reserve status the Committee did not discuss harmonization or best in class.

Measure	Level of Analysis	Current performance	Committee Recommendation
Selection of Antibiotics			
0528 Prophylactic Antibiotic Selection for Surgical Patients	Hospital	99.1%	Reserve status
0268 Perioperative Care: Selection of Prophylactic Antibiotic: First or Second Generation Cephalosporin	Clinician	92.9%	Consensus not reached
0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients	Hospital or cardiac surgeon group	99.2%	Reserve status
Timing of administration of antibiotics			
0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision	Hospital	98.8%	Reserve status
0269 Timing of Prophylactic Antibiotics- Administering Physician	Clinician	94.9%	Reserve status
0264 Prophylactic Intravenous (IV) Antibiotic Timing	Ambulatory Surgery Center	98%	Not recommended
Discontinuation of prophylactic antibiotics			
0529 : Prophylactic Antibiotic Discontinued Within 24 Hours after Surgery End Time	Hospital	98.1%	Reserve status
0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-cardiac Procedures)	Clinician	99.56%	Reserve status
0128 Duration of Antibiotic	Hospital or cardiac	99%	Reserve status

Measure	Level of Analysis	Current performance	Committee Recommendation
Prophylaxis for Cardiac Surgery Patients	surgeon group		

Cardiac Surgery

Four previously NQF-endorsed measures and three newly submitted measures addressing cardiac surgery were reviewed. All seven of the measures were recommended for endorsement.

The following six measures are based on the Society of Thoracic Surgeons (STS) Adult Cardiac Surgery Database. STS estimates that data from more than 90% of CABG procedures performed in the US are submitted to the registry. Cardiac surgery performed at VA or military hospitals or Kaiser hospitals are not submitted to the registry. Registry data is audited – 8-10% of participants were audited by Telligen in 2012-2013. The audit process involves re-abstraction of data for 20 cases and comparison of 72 individual data elements with those submitted. In 2013 the overall aggregate agreement rate was 96.60%. Database participants, over 1000 hospitals or cardiac surgeon groups, pay annual participation fees. More than 45% of participants voluntarily report results on the STS web site. The recommendations for endorsement do not include the star system STS uses in their public reporting program.

0129: Risk-Adjusted Post-operative Prolonged Intubation Ventilation (The Society of Thoracic Surgeons): Recommended

Description: *Percent of patients aged 18 years and older undergoing isolated CABG who require intubation for more than 24 hours postoperatively****; Measure Type:*** *Outcome ;* ***Level of Analysis:*** *Clinician : Group/Practice, Facility ;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data : Registry*

This risk-adjusted, adverse outcome measure has been endorsed since 2007 and is a component in STS's CABG composite measure (NQF 0696) that is publicly reported by STS and Consumer Reports Health . Committee members note that this complication of respiratory failure requiring prolonged intubation after surgery is particularly important to patients and families. Current performance by participants in the STS database demonstrates significant variation in measure results ranging from 4-16% (average 8.8%) and there has been some improvement in the average performance since 2006 (9.7%). The details of the risk adjustment model development were published in 2009.[13] STS notes that their society is actively using the results of this measure to identify high performers to share process improvements to promote overall quality improvement.

0131: Risk-Adjusted Stroke/Cerebrovascular Accident (The Society of Thoracic Surgeons): Recommended

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****; Measure Type:*** *Outcome;* ***Level of***

Analysis: *Clinician: Group/Practice, Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Registry*

This risk-adjusted, adverse outcome measure has been endorsed since 2007 and is a component in STS's CABG composite measure (NQF 0696) that is publicly reported by STS and Consumer Reports Health . The average performance is 99.1%. STS advised the Committee that stroke is still more frequent after CABG compared to PCI and STS has established a Task Force to focus quality improvement efforts on stroke prevention. The Committee considered a reserve status for the measure but agreed that this highly morbid complication is of interest to patients and families. Committee members suggested a need to consider alternative approaches to evaluating low prevalence complications.

0114: Risk-Adjusted Postoperative Renal Failure (The Society of Thoracic Surgeons): Recommended

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****; Measure Type:*** *Outcome;* ***Level of Analysis:*** *Clinician : Group/Practice, Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data : Registry*

This risk-adjusted, adverse outcome measure has been endorsed since 2007 and is a component in STS's CABG composite measure (NQF 0696) that is publicly reported by STS and Consumer Reports Health . Current average performance is 2.5% with a range of 0.3% for high performers and 6.7% for low performers. The Committee rated the measure moderate to high on reliability, validity and feasibility.

2561: STS Aortic Valve replacement AVR Composite Score (The Society of Thoracic Surgeons): Recommended

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. Participants receive a score for each of the two domains, plus an overall composite score. The overall composite score was created by "rolling up" the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance). Star ratings are currently publicly reported on the STS website and will soon be reported on the Consumer Reports website****; Measure Type:*** *Composite;* ***Level of Analysis:*** *Clinician: Group/Practice, Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Registry*

This new measure from STS is a composite outcome measure of the absence of mortality and five complications – wound infection, stroke, kidney failure, respiratory failure and re-operation after surgery to replace the aortic valve. The STS database collected 28,727 aortic valve replacement surgeries in 2012. To get a large enough sample size in order to identify outliers three years of data is aggregated. Average performance on the measure was 94%. The reliability testing of this measure was published in 2012.[14] The Committee noted the successful testing for reliability and validity, including the risk model, as well as the feasibility of measures constructed from the STS database.

2563: STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score (The Society of Thoracic Surgeons) Recommended

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 clinical data collected in a prospective registry and are risk-adjusted. Participants receive a score for each of the two domains, plus an overall composite score. The overall composite score was created by "rolling up" the domain scores into a single number. In addition to receiving a numeric score, participants are assigned to rating categories designated by one star (below average performance), two stars (average performance), or three stars (above average performance). Star ratings will be publicly reported on the STS website in August 2014 and will likely be reported on the Consumer Reports website as well****; Measure Type:*** *Composite;* ***Level of Analysis:*** *Clinician : Group/Practice, Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data : Registry*

Similar to measure 2561 above, this new composite outcome measures of the absence of mortality and five complications – wound infection, stroke, kidney failure, respiratory failure and re-operation after combined surgery for CABG and replacement of the aortic valve . The STS database collected 18,338 aortic valve replacement surgeries in 2012. To get a large enough sample size in order to identify outliers three years of data is aggregated. Average performance on the measure was 91%. The reliability testing of this measure has been submitted for publication. The Committee noted the successful testing for reliability and validity, including the risk model, as well as the feasibility of measures constructed from the STS database.

0119: Risk- Adjusted Operative Mortality for CABG (The Society of Thoracic Surgeons): Recommended

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**; Measure Type:** Outcome; **Level of Analysis:** Clinician: Group/Practice, Facility; **Setting of Care:** Hospital/Acute Care Facility; **Data Source:** Electronic Clinical Data: Registry*

This risk-adjusted outcome measure has been endorsed since 2003 and uses data from the STS Adult Cardiac Surgery database. Operative mortality includes all causes of death during the hospitalization or 30-day post-operative timeframe. Measure results demonstrated considerable variation from the 10th percentile of 0.89 to the risk-adjusted rate of 1.67 in the latest data set from June 2012 with variation depending on race and gender. STS estimates that 90-95% of all programs performing CABG procedures in the US participate in the database. STS has multiple publications describing the development and testing of risk models. The developers report that STS is involved in ongoing efforts to collaborate with leading vendors of electronic health records to develop a methodology where an EHR can be linked to the STS database and allow direct importation of whatever fields one could get out of the EHR. The measure is voluntarily reported by STS and Consumer Reports Health with 45-50% of participants reporting. STS noted the measure is reported both by practice group and by hospital.

2558: Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft CABG Surgery (Centers for Medicare & Medicaid Services): Recommended

***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; **Measure Type:** Outcome; **Level of Analysis:** Facility; **Setting of Care:** Hospital/Acute Care Facility; **Data Source:** Administrative Claims*

This new outcome measure was developed in conjunction with measure **2515 Hospital 30-day, all-cause, unplanned, risk-standardized readmission rate (RSRR) following coronary artery bypass graft (CABG) surgery** that is currently under review in NQF's All-Cause Admissions and Readmissions Measures project. This 30-day all-cause mortality measure construct is similar to other measures from CMS/Yale (NQF 230, 1893, etc.). Mortality is limited to 30 days regardless of whether the patients remains hospitalized – this is a difference compared to the STS measure (#0119). The measure uses administrative data. Testing results using a Medicare database from 2009-2011 found a median result of 3.1% (range 1.5 – 9.3.) The developers have not compared results from this new measure to results from the STS measure (# 0119). Although intended to be used for Medicare patients, the measure was also validated in an all-payer dataset. The testing of the risk model found good calibration and performance. The Committee rated the measure moderate to high on reliability and validity. Feasibility is very high since the measure is based on claims data.

Competing Measures

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 argued 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. CMS reports that 10-15% of Medicare beneficiaries are not included in the STS database. CMS suggested that some may be from small hospitals that would benefit from being measured for the first time. Committee members note that reporting as planned by CMS is advantageous to payers and consumers. The developers also noted that both measures have associated Readmission measures that can be used together with the respective mortality measures. Some Committee members pointed out that having two "similar but different" measures may be confusing to audiences and burdensome to providers. Both developers emphasized their individual approaches to audience education to explain the meaning of the publicly reported results. Committee members requested comparison of the two measures on the Medicare subset to assist in understanding how well correlated the measures might be. The developers reported that analysis has not been done. Committee members asked about timing of the data/reports. STS publicly reports biannually (quarterly data harvests – data lags by 3-6 months). For mortality measures, CMS typically uses a rolling 3 years of data for annual reports (data lags by about 12 months.) After hearing the developers' arguments and discussion among themselves, the Committee decided against making a best-in-class decision and recommended both measures.

Urogynecology

The following three measures were originally part of NQF's Two-Stage CDP Process Pilot Project . The measure concepts were evaluated during Stage 1 on the importance criteria. These measures passed the Importance criteria and underwent testing for reliability and validity. The Surgery Standing Committee performed the Stage 2 evaluation of the remaining criteria.

2038: Performing Vaginal Apical Suspension at the Time of Hysterectomy to Address Pelvic Organ Prolapse (American Urogynecologic Society): Not Recommended

Description: *Percentage of patients undergoing hysterectomy for the indication of pelvic organ prolapse in which a concomitant vaginal apical suspension (i.e. uterosacral, iliococygeus, sacrospinous or sacral colpopexy, or enterocele repair) is performed****; Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician: Individual, Clinician: Group/Practice;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Health Record, Paper Medical Records*

This measure determines whether a vaginal suspension is performed at the same time as a hysterectomy for pelvic organ prolapse. Published reports indicate that reoperation within 10 years of surgery is 7.4 % when vaginal hysterectomy is done without vaginal suspension and just 2% when suspension is performed at the time of hysterectomy. Testing of this process measure used billing records. The results presented by the developer indicated that there were significant coding issues in 1

of 4 testing sites. A Committee member referenced a recent publication that reported accuracy of coding at 66% for Cesarean section in 11 different hospitals. Committee members suggested that a measure like this will likely improve coding. The Committee concluded that the reliability and validity of the measure needs further testing in more sites to determine whether coding problems are widespread.

2052: Reductions of Complications through the Use of Cystoscopy during Surgery for Stress Urinary Incontinence (American Urological Association): Recommended

Description: *Percentage of SUI surgeries for which cystoscopy was used during the surgical procedure to reduce complications****; Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician: Individual;* ***Setting of Care:*** *Ambulatory Care: Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Paper Medical Records*

Known risks during surgery for stress urinary incontinence is injury to the bladder or ureters. Identification using cystoscopy and repair of any injuries at the time of surgery greatly reduces the long-term complications for patients. This process measures was tested in four large specialty practices. The data was abstracted from medical records. Data elements reliability testing resulted in 100% agreement between abstractors. Committee members discussed the need for record abstraction because multiple procedures are bundled together in billing codes. The highest performance during testing was 80% compliance. Committee members concluded that this measure addresses a low cost/low harm procedure to reduce a high impact complication.

2063: Performing Cystoscopy at the Time of Hysterectomy for Pelvic Organ Prolapse to Detect Lower Urinary Tract Injury (American Urogynecologic Society) (Developer): Recommended

Description: *Percentage of patients who undergo cystoscopy to evaluate for lower urinary tract injury at the time of hysterectomy for pelvic organ prolapse****; Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician: Individual, Clinician: Group/Practice;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Electronic Health Record, Paper Medical Records*

Similar to measure 2052, this measure also assesses whether cystoscopy is performed at the time of surgery for pelvic organ prolapse to detect urinary tract injury. This measure also requires chart review. Reliability testing found interabstractor agreement at 98.9% for the cystoscopy data element. The Committee noted that the ureteral injury rate identified during testing of 5.8% is consistent with the published literature. Committee members suggested that a registry or use of CPT II code or G code might improve the feasibility of the measure.

Thoracic Surgery

0458 Pulmonary Function Tests Before Major Anatomic Lung Resection (The Society of Thoracic Surgeons): Not Recommended

Description: *Process;* ***Measure Type:*** *Percentage of thoracic surgical patients aged 18 years and older undergoing at least one pulmonary function test within 12 months prior to a major lung resection (pneumonectomy, lobectomy, or formal segmentectomy);* ***Level of Analysis:*** *Clinician : Group/Practice, Facility;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data : Registry*

This process measure has been endorsed since 2008. Committee members note that performing PFTs is standard of care and performance is quite high at 94% though the measure does not include thoughtful use of the test results nor is there any evidence to support the 12 month timeframe. Committee members asked whether the gap might represent a subset of patients that are low-risk and do not benefit from testing such that the measure promotes overuse? The developers argued that the test is inexpensive and low risk to perform but Committee members asked about a correlation between the PFT results and functional outcomes of the patients. Developers could not provide data that those who failed this measure had worse outcomes. The Committee noted that there are several NQF-endorsed outcome measures for patients undergoing major lung resection -NQF 1790 Risk-Adjusted Morbidity and Mortality for Lung Resection for Lung Cancer and NQF 0459 Risk-Adjusted Morbidity: Length of Stay >14 Days After Elective Lobectomy for Lung Cancer. Because of the noted concerns regarding the measure and the outcome measures in the NQF Surgery portfolio, the Committee did not support continued endorsement of this process measure.

Bariatric Surgery

Three newly submitted measures addressing bariatric were reviewed. None of the measures were recommended for endorsement.

2556: Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity (American Society for Metabolic and Bariatric Surgery): Not Recommended

Description: *Process;* ***Measure Type:*** *The single institutional yearly case volume of primary stapled bariatric surgical procedures performed on patients 18 and older who meet the 1991 NIH consensus conference recommendations for Bariatric surgery;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Health Record, Electronic Clinical Data: Registry*

The developers presented data demonstrating a relationship between surgical volume and patient outcomes (morbidity and mortality.) The measure focuses on three procedures – sleeve, band and bypass -approximately 180,000 cases are performed annually in the US. This new measure reports an annual number of cases performed. The developer reported that the accreditation by the American Society of Metabolic and Bariatric Surgery uses a threshold of 50 cases though that is not included in the measure specifications. While there is a high degree of variability in case volume among hospitals, the Committee struggled with understanding how the number of cases alone reflects quality and how the measure result signifies an opportunity for improvement. The Committee noted that incentivizing surgeons solely based on volume (with no linkage to outcome) could lead to unintended consequences and may decrease share-decision making between surgeon and patient. In addition, some Committee members questioned whether there is an overuse problem in high volume hospitals. The Committee rated the measure low on opportunity for improvement.

2557: Hospital-Level, 30-Day All-Cause Readmission Rate after Elective Primary Bariatric Surgery Procedures (American Society for Metabolic and Bariatric Surgery): Not Recommended

Description: *Outcome****; Measure Type:*** *This measure estimates hospital-level 30-day all-cause (not risk adjusted) readmission rates following elective primary bariatric surgery in patients age 18-65. Specific*

bariatric surgery procedures included in the measure are laparoscopic Roux-en-Y gastric bypass, sleeve gastrectomy, biliopancreatic diversion with duodenal switch, and laparoscopic adjustable gastric banding. The outcome is defined as readmission for any cause within 30 days of the discharge date for the index hospitalization. Population homogeneity is afforded by the exclusion of open, revisional bariatric surgery and extremes of age; ***Level of Analysis:*** *Clinician: Group/ Practice;* ***Setting of Care:*** *Ambulatory Care: Ambulatory Surgery Center (ASC);* ***Data Source:*** *Electronic Clinical Data: Electronic Health Record, Electronic Clinical Data: Registry*

This new outcome measure addresses readmission after bariatric surgery. The literature reports a 1-20% incidence of readmission. The measure is intended to use data from a clinical registry. The Committee agreed this would be an important outcome to measure and encouraged further development of the measure including risk-adjustment and testing for reliability and validity.

2559 Bariatric Surgery Hospital Accreditation (American Society for Metabolic and Bariatric Surgery): Not Recommended

Description: *Bariatric surgery is an emerging field of surgical specialty. One of the demonstrated drivers for bariatric surgery safety and effectiveness is hospital accreditation for bariatric surgery. As a new field, bariatric surgery outcomes will benefit significantly from hospital accreditation. We will demonstrate the utility of hospital accreditation for bariatric surgery. We are also aware that accreditation for bariatric surgery is not uniform @75-80% and that there are multiple accrediting bodies, providing an opportunity for harmonization. In addition, we will also delineate the favorable impact that accreditation has upon surgical outcomes in distinction to non-accreditation. Accreditation is clearly a process measure as noted by how care is delivered, i.e., care delivery at accredited vs. non-accredited hospitals performing bariatric surgery. The measure is dichotomous: accreditation vs. non-accreditation. Key elements of accreditation include the following: 1. Case volume, patient selection, and approved procedures by designation level; 2. Commitment to quality care standards; 3. Appropriate equipment and instruments; 4. Critical care support; 5. Continuum of care; 6. Data collection; 7. Continuous quality improvement****; Measure Type:*** *Process;* ***Level of Analysis:*** *Facility, Health Plan, Integrated Delivery System, Population: Community, Population: County or City, Population: National , Population: Regional, Population: State;* ***Setting of Care:*** *Ambulatory Care: Ambulatory Surgery Center (ASC), Ambulatory Care: : Clinician Office/ Clinic, Ambulatory Care: Outpatient Rehabilitation, Hospital/ Acute Care Facility;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data: Electronic Clinical Data, Electronic Clinical Data: Electronic Health Record, Electronic Clinical Data: Registry*

This new structural measure assess whether a bariatric surgery program is accredited. The developer asserted that accreditation is a type of composite of many characteristics of a program. Committee members noted that the evidence is not homogenous -- 4 of 10 studies do not support a relationship between accreditation and patient outcomes. The developer reports that 20-25% of sites performing bariatric surgery are not accredited suggesting an opportunity for improvement. The developer noted that there are several potential accrediting bodies. No testing information was provided. The Committee rated the measure low on reliability.

Database Participation

Three previously NQF-endorsed measures addressing database participation were reviewed. All of the measures were recommended for endorsement.

0113: Participation in a Systematic Database for Cardiac Surgery (The Society of Thoracic Surgeons): Recommended with Reserve Status

Description: *Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data****; Measure Type:*** *Structure;* ***Level of Analysis:*** *Clinician: Group/ Practice, Facility, Population: National;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Registry*

This measure has been endorsed since 2003. With over 90% of cardiac surgery centers in the US participating in the STS Adult Cardiac Surgery Database, the Committee suggested that this measure has little room for performance improvement. The developers indicated that participation in the STS registry is not universal. However, the developers responded that providers can comply with the measure through participation in other existing regional or large system registries, e.g. VA, or in registries that might evolve in the future. The developers also argued that endorsement of this measure is necessary to convince hospital administrators to continue paying for participation in the database. Since many more registries are being developed, Committee members questioned whether there needs to be a measure for participation in each registry. Given the high rate of participation in the STS Cardiac Surgery Database, Committee members recommended this measure for reserve status.

0456: Participation in a Systematic National Database for General Thoracic Surgery (The Society of Thoracic Surgeons): Recommended

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****; Measure Type:*** *Structure;* ***Level of Analysis:*** *Clinician: Individual, Clinician: Group/ Practice, Facility;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Registry*

This measure has been endorsed since 2009. The Committee agreed that there is a performance gap for this measure given that there are only 244 STS General Thoracic Surgery Database participants to date. It is unknown how many potential participants exist because this registry includes surgeons (i.e. general surgeons) other than board certified thoracic surgeons. Currently, this measure is not used in any accountability program, but STS plans to publicly report general thoracic data in the future; this is likely to take place in 2015. Other databases such as NSQIP would qualify for this measure – it is not exclusively for STS.

0734: Participation in a National Database for Pediatric and Congenital Heart Surgery (The Society of Thoracic Surgeons): Recommended

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****; Measure Type:***

Structure; ***Level of Analysis:*** *Clinician: Group/ Practice, Facility, Population: National;* ***Setting of Care:*** *Hospital/ Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data: Registry*

This measure has been endorsed since 2009. The Committee observed that there is significant variability in performance on this measure, considering 11-14% of the 125 institutions performing pediatric and congenital cardiac surgery still do not participate in the STS Congenital Heart Surgery Database.

Measures withdrawn by the developer from further consideration of endorsement

The following measures were withdrawn during the measure evaluation period:

Measure	Measure Steward	Reason for withdrawal
0454: Perioperative Temperature Management	American Society of Anesthesiologists (ASA)	New specifications need further clarification.
0452 Surgery Patients with Perioperative Temperature Management	CMS	Measure retired by the measure steward.
0270 Perioperative Care: Timing of Parenteral Antibiotics – Ordering Physician	AMA PCPI	Measure retired by the measure steward.
0637 Perioperative Care: Discontinuation of Prophylactic Antibiotics (cardiac procedures)	AMA PCPI	Measure steward harmonizing with another existing measure.

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Appendix A: Details of Measure Evaluation

Measures recommended

Measures recommended with reserve status

Measures where consensus is not yet reached

Measures not recommended

Measures deferred

Measures withdrawn from consideration

Measures Recommended

Rating Scale: H=High; M=Moderate; L=Low; I=Insufficient; NA=Not Applicable; Y=Yes; N=No

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)

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.

0114 Risk-Adjusted Postoperative Renal Failure

- 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

-

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

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.

0119 Risk-Adjusted Operative Mortality for CABG

- 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 '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 •
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 **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

0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)

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- 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**

Rationale:

- 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: The measure meets the Scientific Acceptability criteria

(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**

Rationale:

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

0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
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.
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

0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
•
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 **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.

0131 Risk-Adjusted Stroke/Cerebrovascular Accident

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- 14; M- 8; L- 0; I-0;** 2b. Validity: **H- 17; M- 5; L- 0; I-0**
<u>Rationale</u>:

- 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 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)
<u>Rationale</u>:

- 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)
<u>Rationale</u>:

- 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.

0131 Risk-Adjusted Stroke/Cerebrovascular Accident
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 •
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 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.
- 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)
<u>Rationale</u>:

- 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

0178 Improvement in status of surgical wounds

(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

-

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**

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

0456 Participation in a Systematic National Database for General Thoracic Surgery
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: <u>The measure meets the Scientific Acceptability criteria</u> (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** <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. • 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)* <u>Rationale</u>: • 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)* <u>Rationale</u>: • 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.
Standing Committee Recommendation for Endorsement: **Y- 17; N- 5**
6. Public and Member Comment •
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.
- 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: The measure meets the Scientific Acceptability criteria

(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**

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.
- 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

0734 Participation in a National Database for Pediatric and Congenital Heart Surgery

(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, 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)

Rationale:

- 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

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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

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

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.
- 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**

2052 Reduction of Complications through the use of Cystoscopy during Surgery for Stress Urinary Incontinence
6. Public and Member Comment •
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

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

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

2561 STS Aortic Valve Replacement (AVR) Composite Score

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 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:

2561 STS Aortic Valve Replacement (AVR) Composite Score
• 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 •
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 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.

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

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- 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**
<u>Rationale</u>:

- 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
(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>:

- 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)
<u>Rationale</u>:

- 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

-

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

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 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**

Rationale:

- 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.

0113 Participation in a Systematic Database for Cardiac Surgery

- 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: The measure meets the Scientific Acceptability criteria
(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**
Rationale:

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

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 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

0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients
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 •
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: <u>The measure meets the Importance criteria</u>

(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**

<u>Rationale</u>:

- 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: <u>The measure meets the Scientific Acceptability criteria</u>

(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**

<u>Rationale</u>:

- 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

0128 Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients
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 •
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). 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 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>:

0269 Timing of Prophylactic Antibiotics - Administering Physician
• 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)* Rationale: • 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)* Rationale: • 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 •
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

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

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

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 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**

<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'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: <u>The measure meets the Scientific Acceptability criteria</u>

(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**

0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
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%. • 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 •
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
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.

0527 Prophylactic Antibiotic Received 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>:

- 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.

0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
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.
Standing Committee Recommendation for Endorsement: **Y- 21; N-1**
6. Public and Member Comment •
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

0528 Prophylactic Antibiotic Selection for Surgical Patients

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

• 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 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)
<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. 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

-

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

0528 Prophylactic Antibiotic Selection for Surgical Patients
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) **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

0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time

• 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.
- 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.

0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
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. • 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 •
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 Where Consensus Is Not Yet Reached

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: The measure meets the Importance criteria

(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**

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 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 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).
- 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).

0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin

- 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.

Measures Not Recommended

0264 Prophylactic Intravenous (IV) Antibiotic Timing

Submission | Specifications

Description: Rate of ASC patients who received IV antibiotics ordered for surgical site infection prophylaxis on time

Numerator Statement: Number of ambulatory surgical center (ASC) admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection who received the prophylactic antibiotic on time

Denominator Statement: All ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection

Exclusions: ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of infections other than surgical site infections (e.g., bacterial endocarditis).

ASC admissions with a preoperative order for a prophylactic antibiotic not administered by the intravenous route.

Adjustment/Stratification: No risk adjustment or risk stratification

Level of Analysis: Facility

Setting of Care: Ambulatory Care : Ambulatory Surgery Center (ASC)

Type of Measure: Process

Data Source: Other, Paper Medical Records

Measure Steward: ASC Quality Collaboration

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

1. Importance to Measure and Report: The measure does not meet the Importance criteria

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

1a. Evidence: **H- 1; M- 7; L- 12; I-2;** I-X; 1b. Performance Gap: **H-X**; **M-X**; **L-X**; **I-X** 1c. High Priority: **Y-X**; **N-X;**

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 guidelines recommend administration of preoperative antibiotics within 60 minutes before surgical incision (120 minutes for selected antibiotic agents); this specific recommendation is not graded.
- The evidence base underlying the relevant guideline recommendation includes six large observational studies, two small observational studies, and three randomized controlled trials.
- Committee members noted that all of these studies were focused on the inpatient setting, suggesting that their results may have limited applicability to the ambulatory surgery center (ASC) setting.
- Some Committee members questioned whether currently-available evidence supports the need for antibiotic prophylaxis in the outpatient setting.

0264 Prophylactic Intravenous (IV) Antibiotic Timing

- Other Committee members noted that much of the evidence around antibiotic prophylaxis was developed at a time when surgeries now commonly done in the outpatient setting were more likely to be done in the inpatient setting. So depending on the applicable procedures, existing inpatient-focused evidence could have some relevance to the current outpatient surgery environment.
- In response to questions from the Committee, the developer clarified that this measure allows for analysis of performance at the individual ASC level.
- Committee members observed that the measure applies only to IV antibiotics and to patients with an order for antibiotics, noting that these factors could result in sample bias.
- The measure did not pass the Evidence subcriterion, and therefore was not evaluated against the remaining criteria.

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-X**; **M-X**; **L-X**; **I-X** 2b. Validity: **H-X**; **M-X**; **L-X**; **I-X**
Rationale:

- N/A

3. Feasibility: H-X; M-X; L-X; I-X
(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
Rationale:

- N/A

4. Use and Usability: H-X; M-X; L-X; I-X
(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)
Rationale:

- N/A

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: **Y-X**; **N-X**

0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero

Submission | Specifications

Description: Percentage of Surgical patients greater than 18 years of age with urinary catheter removed on Postoperative Day 1 or Postoperative Day 2 with day of surgery being day zero.
Numerator Statement: Number of surgical patients whose urinary catheter is removed on POD 1 or POD 2 with day of surgery being day zero.
Denominator Statement: All selected surgical patients with a catheter in place postoperatively.

0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero

See S.2b above for code tables.

Exclusions: Excluded Populations:

• Patients less than 18 years of age

• Patients who have a Length of Stay greater than 120 days

• Patients enrolled in clinical trials

• Patients who had a urological, gynecological or perineal procedure performed (refer to Appendix A, Table 5.16 for ICD-9-CM codes)

• Patients whose ICD-9-CM principal procedure occurred prior to the date of admission

• Patients who expired perioperatively

• Patients whose length of stay was less than two days postoperatively

• Patients who did not have a catheter in place postoperatively

• Patients who had physician/APN/PA documentation of a reason for not removing the urinary catheter postoperatively

• Patients who had a urinary diversion or a urethral catheter or were being intermittently catheterized prior to hospital arrival

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 Priority)

1a. Evidence: **H- 11; M- 10; L- 1; I-0;** I-X; 1b. Performance Gap: **H- 1; M- 4; L- 17; I- 0;** 1c. High Priority: **H- 12; M- 6; L- 4; I- 0;**

<u>Rationale</u>:

- Evidence provided by the developer included Center for Disease Control and Prevention (CDC) guidelines by the Healthcare Infection Control Practices Advisory Committee identifying that for operative patients who have an indication for an indwelling catheter, the catheter should be removed as soon as possible postoperatively, preferably within 24 hours, unless there are appropriate indications for continued use (Category IB). The Committee expressed no concerns regarding the evidence of this measure.
- The measure developer suggested a benchmark goal of 99.9% and reports a current national rate of 97.7% (2nd quarter of 2013) with disparities for race at performance rates from 97% - 98%, which shows indications of this measure being topped out.
- While the Committee acknowledged the importance of reducing an important problem – prolonged indwelling catheter time – members agreed that the measure's performance has been very high and it is topped out with a minimal performance gap in care.
- Due to the high levels of performance, the Committee decided to consider this measure for reserve status.

0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero

2. Scientific Acceptability of Measure Properties: The measure does not meet the Scientific Acceptability criteria
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H- 1; M- 13; L- 8; I-0;** 2b. Validity: **H- 5; M- 8; L- 9; I-0**
Rationale:

- The developer reported validity test at the data element level (13 critical data elements). Validity testing was not done for the performance score. Overall, the inter-rater agreement rates were high. The agreement rates for all data elements were higher than 90%. The kappa statistic for the dichotomous data elements reflected fair to almost substantial agreement even after kappa adjusts for agreement by chance alone.
- The Committee expressed concern regarding the validity of the 17.6% of patients that were excluded from the denominator. In addition, Committee members were concerned that this measure is simply a documentation measure and that the denominator included procedures that should not need catheters for any length of time.
- Because the Committee did not give the measure high ratings on reliability and validity, it was determined that the measure was ineligible for reserve status and was not considered further.

3. Feasibility: H-X; M-X; L-X; I-X
(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
Rationale:

- N/A

4. Use and Usability: H-X; M-X; L-X; I-X
(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)
Rationale:

- N/A

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: **Y-X**; **N-X**
Rationale:

- The Committee did not recommend this measure for endorsement since it did not pass receive high ratings on the Scientific Acceptability criteria, making it ineligible for continued consideration for reserve status.

0458 Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)

Submission | Specifications

Description: Percentage of thoracic surgical patients aged 18 years and older undergoing at least one pulmonary

0458 Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)

function test within 12 months prior to a major lung resection (pneumonectomy, lobectomy, or formal segmentectomy)

Numerator Statement: Number of thoracic surgical patients aged 18 years and older undergoing at least one pulmonary function test within 12 months prior to a major anatomic lung resection.

Denominator Statement: Number of patients undergoing a major anatomic lung resection

Exclusions: Patients who are unable to perform pulmonary function testing (tracheostomy, patient inability to cooperate with pulmonary function test) or those with urgent/emergent need of lung resection (lung abscess, massive hemoptysis, bronchopleuralfistula,etc).

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: <u>The measure meets the Importance criteria</u>

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

1a. Evidence: **H- 4; M- 16; L- 2; I- 0;** I-X; 1b. Performance Gap: **H- 4; M- 12; L- 7; I-0;** 1c. High Priority: **H- 6; M- 12; L- 5; I-0;**

<u>Rationale</u>:

- The evidence base for the measure included clinical practice guidelines by the American College of Chest Physicians suggesting that in patients with lung cancer being considered for surgery, it is recommended that both forced expiratory volume in 1 second (FEV1) and diffusing capacity (DLCO) be measured in all patients and that both predicted postoperative (PPO) FEV1 and PPO DLCO are calculated (Grade 1B). In patients with lung cancer being considered for surgery, if both PPO FEV1 and PPO DLCO are >60% predicted, no further tests are recommended (Grade 1C).
- Committee member discussed compliance with the measure has been high - initially about 91% in 2008, increased to 94% in the 2010 to 2013 timeframe. Nonetheless, a performance gap still exists which should be examined. Measure captures practice that is generally considered standard of care, assessing resectability and preoperative risk. New evidence raised the question about whether full pulmonary testing is still needed. Lastly, concerns were raised on whether there was any evidence to the 12 month timeframe.

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- 13; M- 10; L- 0; I- 0;** 2b. Validity: **H- 11; M- 10; L- 2; I- 0**

<u>Rationale</u>:

- The measure was tested for reliability and validity at the critical data element and performance measure score level by and random audit process involving re-abstraction of data and a comparison of individual elements with those submitted to the data warehouse.

0458 Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)

- Agreement rates are calculated for each of 36 variables; in 2013, the overall aggregate agreement rate was 96.58%.
- Empiric validity testing was done from a sample of 181 STS participants who participated and received the measure in both time periods of July 2008 - June 2011 and July 2010 - June 2013.
- 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- 9; M- 11; 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)

Rationale:

- The Committee had no questions or comments on the feasibility of this measure.

4. Use and Usability: H- 1; M- 12; L- 9; I-0

(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)

Rationale:

- This measure was noted as not currently being publically reported.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: **Y- 8; N- 15**

Rationale:

- The Committee expressed concerns regarding the lack of data providing any correlation between the PFT results and the functional outcomes of the patients. The Committee noted that there are several NQF-endorsed outcome measures for patients undergoing major lung resection -NQF 1790 Risk-Adjusted Morbidity and Mortality for Lung Resection for Lung Cancer and NQF 0459 Risk-Adjusted Morbidity: Length of Stay >14 Days After Elective Lobectomy for Lung Cancer.

2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse

Submission | Specifications

Description: Percentage of patients undergoing hysterectomy for the indication of pelvic organ prolapse in which a concomitant vaginal apical suspension (i.e. uterosacral, iliococygeus, sacrospinous or sacral colpopexy, or enterocele repair) is performed.

Numerator Statement: The number of patients who have a concomitant vaginal apical suspension (i.e.enterocele repair, uterosacral-, iliococygeus-, sacrospinous- or sacral- colpopexy) at the time of hysterectomy for pelvic organ prolapse.

Denominator Statement: Hysterectomy performed for the indication of pelvic organ prolapse

Exclusions: • Patients with a gynecologic or other pelvic malignancy noted at the time of hysterectomy

2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse

• Patients undergoing a concurrent obliterative procedure (colpocleisis)
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: Administrative claims, 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 Priority)
1a. Evidence: **H-X**; **M-X**; **L-X; IE-X;** I-X; 1b. Performance Gap: **H-X**; **M-X**; **L-X**; **I-X** 1c. High Priority: **Y-X**; **N-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 2-stage evaluation process that the criterion of Importance to Measure and Report was met.

2. Scientific Acceptability of Measure Properties: The measure does not meet the Scientific Acceptability criteria
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H- 1; M- 8; L- 10; I-4;** 2b. Validity: **H- 0; M- 5; L- 14; I-4**
Rationale:

- The Committee determined that the measure specifications were precise, noting that all codes necessary to calculate the measure were present and the specifications were consistent with the evidence presented.
- The Committee agreed that reliability of the measure was demonstrated, with the reliability results from kappa statistic measuring the frequency of accurate EMR to be quite high at .92.
- Validity testing was conducted at the data element level comparing the findings of the operative note review with CPT codes used for billing. The Committee expressed concerns with validity as the developer stated their decision to exclude one of the four institutions due to a systematic but incorrect use of entirely different billing codes to capture colpopexy.

3. Feasibility: H-X; M-X; L-X; I-X
(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
Rationale:

- N/A

4. Use and Usability: H-X; M-X; L-X; I-X
(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)
Rationale:

2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse

- N/A

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: **Y-X**; **N-X**

2556 Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity

Submission | Specifications

Description: The single institutional yearly case volume of primary stapled bariatric surgical procedures performed on patients 18 and older who meet the 1991 NIH consensus conference recommendations for Bariatric surgery.

Numerator Statement: Total yearly primary stapled bariatric surgical cases reported in patients 18 and older reported in the procedure field of the MBSAQIP bariatric surgical database.

-or-

Discharges, age 18 years and older, with ICD-9-CM code for primary Bariatric surgical procedures (excluding gastric restrictive device) accompanied by diagnosis code for Morbid obesity (CPT code 43775, 43644, 43645,43846,43847,43845)(ICD-9 code 278.01) (DRG 619-621)

Denominator Statement: The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes:

Inclusion Criteria: Elective, Primary Bariatric Surgery

Gastric Bypass

CPT 43644, 43645, 43846, 43847

ICD9 Procedure Code

Gastric Banding

CPT 436770

ICD9 Procedure Code 44.95, 44.68

Sleeve Gastrectomy

CPT 43775

ICD9 Procedure Code 43.82, 43.89

Duodenal Switch

CPT 43845

ICD9 Procedure Code 43.89, 45.51, 45.91

Exclusions: Occasionally these bariatric surgery procedures may share the same surgical approach as oncologic operations for gastric cancer. Therefore, Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)

Adjustment/Stratification:

Level of Analysis: Facility

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry

Measure Steward: American Society for Metabolic and Bariatric Surgery

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

2556 Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity

1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u>

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

1a. Evidence: **H- 0; M- 11; L- 9; I-2;** I-X; 1b. Performance Gap: **H- 2; M- 3; L- 7; I-10;** 1c. High Priority: **Y-X**; **N-X;**

<u>Rationale</u>:

- Evidence presented by the developer included a systematic review that assessed the relationship between yearly case volumes of bariatric procedures to the incidence of mortality and morbidity.
- Although monitoring hospital volume case is important, the Committee expressed concerns that there is no clearly defined performance gap. The measure result is simply the number of cases. It is not clear how a center can judge its performance or improve. The developer noted that a threshold of 50 cases is used for the accreditation program but a threshold is not included in the specifications.
-

2. Scientific Acceptability of Measure Properties

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

2a. Reliability: **H-X**; **M-X**; **L-X**; **I-X** 2b. Validity: **H-X**; **M-X**; **L-X**; **I-X**

<u>Rationale</u>:

- N/A

3. Feasibility: H-X; M-X; L-X; I-X

(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>:

- N/A

4. Use and Usability: H-X; M-X; L-X; I-X

(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)

<u>Rationale</u>:

- N/A

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: **Y-X**; **N-X**

2557 Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures

<u>Submission</u> | <u>Specifications</u>

Description: This measure estimates hospital-level 30-day all-cause (not risk adjusted) readmission rates following elective primary bariatric surgery in patients age 18-65. Specific bariatric surgery procedures included in the measure are laparoscopic Roux-en-Y gastric bypass, sleeve gastrectomy, biliopancreatic diversion with duodenal switch, and laparoscopic adjustable gastric banding. The outcome is defined as readmission for any cause within 30 days of the discharge date for the index hospitalization. Population homogeneity is afforded by the exclusion of

2557 Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures

open, revisional bariatric surgery and extremes of age.

Numerator Statement: This outcome measure does not have a traditional numerator and denominator like a core process measure. We are therefore using this field to define the readmission outcome.

The outcome for this measure is a readmission to any acute care hospital, for any reason, occurring within 30 days of the discharge date of the index hospitalization. Planned readmissions for any reason within 30 days of an elective primary bariatric procedure would be extremely rare and the numerator therefore includes all-cause readmission and no planned readmission algorithm is needed. Readmission is defined as a hospital admission > 24 hours.

Denominator Statement: The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes:

Inclusion Criteria: Elective, Primary Bariatric Surgery

Gastric Bypass

CPT 43644, 43645, 43846, 43847

ICD9 Procedure Code

Gastric Banding

CPT 436770

ICD9 Procedure Code 44.95, 44.68

Sleeve Gastrectomy

CPT 43775

ICD9 Procedure Code 43.82, 43.89

Duodenal Switch

CPT 43845

ICD9 Procedure Code 43.89, 45.51, 45.91

Exclusions: Occasionally these bariatric surgery procedures may share the same surgical approach as oncologic operations for gastric cancer. Therefore, Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)

Adjustment/Stratification: No risk-adjustment or stratification is submitted for this measure

Level of Analysis: Clinician : Group/Practice

Setting of Care: Ambulatory Care : Ambulatory Surgery Center (ASC)

Type of Measure: Outcome

Data Source: Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry

Measure Steward: American Society for Metabolic and Bariatric Surgery

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: **Y- 20; N- 2**; 1b. Performance Gap: **H- 7; M- 13; L- 1; I-0;** 1c. High Priority: **H- 13; M- 9; L- 0; I-0;**

<u>Rationale</u>:

- This is an outcome measure. The Committee recognized a relationship between related processes (fluid and electrolyte balance, surgical technique, prevention of infection, deep vein thrombosis and coordination of care) and readmission rates.
- Although no performance data was presented, the literature provided demonstrated a potential opportunity for improvement citing readmission rates of laparoscopic bypass (6.5%), open gastric (9.4%), sleeve gastrectomy (5.4%), and adjustable gastric banding at (1.7%).

2557 Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures

- The Committee identified this measure to be of high priority based on the literature provided, citing a correlation between bariatric surgery procedures and the national epidemic of obesity in the United States.

2. Scientific Acceptability of Measure Properties: The measure does not meet the Scientific Acceptability criteria
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H- 1; M- 11; L- 8; I-2;** 2b. Validity: **H- 0; M- 9; L- 12; I-2**
Rationale:

- The Committee expressed concerns on the specifications; noting in particular that the numerator is not clearly defined.
- No reliability and validity testing was performed.
- The Committee raised concerns about the lack of risk adjustment, which may have implications for the readmission rates of patients undergoing elective bariatric surgery procedures.

3. Feasibility: H-X; M-X; L-X; I-X
(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
Rationale:

- N/A

4. Use and Usability: H-X; M-X; L-X; I-X
(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)
Rationale:

- N/A

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: **Y-X**; **N-X**
Rationale:

- The Committee did not recommend this measure for endorsement since it did not pass Scientific Acceptability, which is a must pass criterion.

2559 Bariatric Surgery Hospital Accreditation

Submission | Specifications

Description: Bariatric surgery is an emerging field of surgical specialty. One of the demonstrated drivers for bariatric surgery safety and effectiveness is hospital accreditation for bariatric surgery. As a new field, bariatric surgery outcomes will benefit significantly from hospital accreditation. We will demonstrate the utility of hospital accreditation for bariatric surgery. We are also aware that accreditation for bariatric surgery is not uniform @75-80% and that there are multiple accrediting bodies, providing an opportunity for harmonization. In addition, we will also delineate the favorable impact that accreditation has upon surgical outcomes in distinction to non-

2559 Bariatric Surgery Hospital Accreditation

accreditation. Accreditation is clearly a process measure as noted by how care is delivered, i.e., care delivery at accredited vs. non-accredited hospitals performing bariatric surgery. The measure is dichotomous: accreditation vs. non-accreditation.

Key elements of accreditation include the following:

1. case volume, patient selection, and approved procedures by designation level
2. commitment to quality care standards
3. appropriate equipment and instruments
4. critical care support
5. continuum of care
6. data collection
7. continuous quality improvement

Numerator Statement: This outcome measure is straight-forward. The denominator is all hospital performing bariatric surgery and the numerator is accredited hospitals performing bariatric surgery.

Denominator Statement: The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes:

Inclusion Criteria: Elective, Primary Bariatric Surgery

Gastric Bypass

CPT 43644, 43645, 43846, 43847

ICD9 Procedure Code

Gastric Banding

CPT 436770

ICD9 Procedure Code 44.95, 44.68

Sleeve Gastrectomy

CPT 43775

ICD9 Procedure Code 43.82, 43.89

Duodenal Switch

CPT 43845

ICD9 Procedure Code 43.89, 45.51, 45.91

Exclusions: Occasionally these bariatric surgery procedures may share the same surgical approach as oncologic operations for gastric cancer. Therefore, Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)

Adjustment/Stratification:

Level of Analysis: Population : Community, Population : County or City, Facility, Health Plan, Integrated Delivery System, Population : National, Population : Regional, Population : State

Setting of Care: Ambulatory Care : Ambulatory Surgery Center (ASC), Ambulatory Care : Clinician Office/Clinic, Hospital/Acute Care Facility, Ambulatory Care : Outpatient Rehabilitation

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry

Measure Steward: American Society for Metabolic and Bariatric Surgery

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- 1; M-9; L-12; I-1**; 1b. Performance Gap: **H- 4; M-16; L-3; I-0;** 1c. High Priority: **H-11; M-10; L-2; I-0;**

<u>Rationale</u>:

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- Evidence provided by the developer included six observational cohort studies that assessed accreditation relative to a decrease in mortality rates. Of the six citations, three of these studies did not support accreditation and its link to better outcomes. The Committee acknowledged the inconsistent evidence with the measure.
- The Committee agreed that with only 80% of hospitals percent of hospitals being accredited for bariatric surgery, there is a performance gap with an opportunity for improvement.
- Approximately 180,000 bariatric surgery cases are performed annually; establishing accreditation in an emerging field such as bariatric surgery renders an improvement in complications and mortality.
- In addition, the measure provides a platform for quality improvement by providing the ability to implement processes of care to improve surgical outcomes making this a high priority.

2. Scientific Acceptability of Measure Properties: <u>The measure does not meet the Scientific Acceptability criteria</u>
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H- 0; M- 4; L- 12; I-6;** 2b. Validity: **H-X**; **M-X**; **L-X**; **I-X**
<u>Rationale</u>:

- The Committee found the submitted information confusing as to the specifications of the measure. As a structural measure, the developer indicated that the result is a simple Yes or No for the accreditation status. The specifications list characteristics required for accreditation by MBSAQIP, however they also noted there are other organizations that grant accreditation. It is unclear whether all accrediting organizations use the same criteria.
- No measure testing was performed.

3. Feasibility: H-X; M-X; L-X; I-X
(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>:

- N/A

4. Use and Usability: H-X; M-X; L-X; I-X
(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)
<u>Rationale</u>:

- N/A

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement:
<u>Rationale</u>:

- The Committee did not recommend this measure for endorsement since it did not pass Scientific Acceptability, which is a must pass criteria

Measures Deferred

The following measures have been deferred for future consideration:

Measure	Reason for deferral
0465: Perioperative Anti-platelet Therapy for Patients undergoing Carotid Endarterectomy	Request of the developer to defer this measure for future consideration during another project to ensure all sufficient data is presented during its reconsideration for endorsement.
0533: Postoperative Respiratory Failure Rate (PSI 11)	Request of the developer to defer this measure for future consideration during another project to ensure all sufficient data is presented during its reconsideration for endorsement.
0534: Hospital specific risk-adjusted measure of mortality or one or more major complications within 30 days of a lower extremity bypass (LEB)	Given the transfer of stewardship, at the request of the developer asked to defer this measure for future consideration during another project to ensure all sufficient data is presented during its reconsideration for endorsement.

Measures Withdrawn from consideration

Three measures previously endorsed by NQF have not been re-submitted or withdrawn from maintenance of endorsement by the measure steward. The following measures are being retired from endorsement:

Measure	Reason for retirement
0270: Perioperative Care: Timing of Prophylactic Parenteral Antibiotics—Ordering Physician	Developer reviewed this measure in relation to Measure 0269: Perioperative Care: Timing of Prophylactic Antibiotics—Administering Physician and deemed it necessary to highlight the importance of timely administration of prophylactic antibiotics rather than the more upstream process of placing the order for antibiotics, which in some cases can be an automated process, therefore retiring this measure.
0452: Surgery Patients with Perioperative Temperature Management	Measure has been removed from the Inpatient Quality Reporting program since October 2013, as well as the FY 2016 payment program with no plans to continue with endorsement of the measure
0454: Perioperative Temperature Management	New specifications submitted by the developer warrant further clarification and testing.
0637: Perioperative Care: Discontinuation of Prophylactic Antibiotics (Cardiac Procedures)	Developer intends to combine this measure with measure#128 (Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients), therefore no longer needing to submit for re-endorsement

Appendix B: NQF Surgery Portfolio and related measures

NQF's portfolio of measure related to surgery numbers 131 measures. The Surgery Standing Committee is responsible for 66 measures (69 including GI/GU pilot measures). Sixty-two measures have been assigned, for various reasons, to other projects. These include adverse outcomes (Safety portfolio), eye surgery (HEENT portfolio), oncology (Cancer portfolio), care coordination (Care Coordination portfolio), and pre-operative stress testing (Cardiovascular portfolio.) Nine measures in red are newly submitted for consideration for endorsement by the Cardiovascular Standing Committee in 2014.

Surgery Portfolio Characteristics

By Measure Type
Outcome: **67**
Process: **51**
Structure: **6**
Efficiency: **2**
Cost/Resource Use: **1**
Composite: **6**

By Applicable Care Setting
Ambulatory/Outpatient Care: **33**
Dialysis Facility: **2**
Home Health: **1**
Hospice: **2**
Hospital/Acute Care: **109**
Post-Acute/Long-Term Care: **6**
Behavioral Health/Inpatient Psychiatric Facility: **3**
Imaging Facility: **2**
Laboratory: **1**
Urgent Care: **2**

By Data Source
Administrative Claims: **59**
Electronic Clinical Data (EHR): **46**
Electronic Clinical Data (Registry): **51**
Electronic Clinical Data (Pharmacy): **5**
Electronic Clinical Data (Laboratory): **11**
Electronic Clinical Data (Imaging/Diagnostic Study): **3**
Paper Medical Records: **59**
Patient-Reported Data/Survey: **1**

By Use in Federal Programs
Ambulatory Surgical Center Quality Reporting Program: **1**
Home Health Quality Reporting: **1**
Hospital Inpatient Quality Reporting: **11**
Hospital Value-Based Purchasing: **7**
Meaningful Use: **3**
PPS-Exempt Cancer Hospital Quality Reporting: **6**
Physician Quality Reporting System (PQRS): **17**

Peri-operative Care

- 0284 Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
- 0669* Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac, Low Risk Surgery
- 0670* Cardiac stress imaging not meeting appropriate use criteria: Preoperative evaluation in low risk surgery patients
- 0301* Surgery patients with appropriate hair removal
- 0515* Ambulatory surgery patients with appropriate method of hair removal [ASC]
- 0454 Perioperative Temperature Management
- 0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero
- 0464* Prevention of Catheter-Related Bloodstream Infections (CRBSI) – Central Venous Catheter

- 0327* Risk-Adjusted Average Length of Inpatient Hospital Stay
- 1789* Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
- 2158* Payment-Standardized Medicare Spending Per Beneficiary (MSPB)
- 0178 Improvement in status of surgical wounds [home health]

VTE Prophylaxis

- 0218 Surgery Patients Who Received Appropriate Venous Thromboembolism (VTE) Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery
- 0239* Perioperative Care: Venous Thromboembolism (VTE) Prophylaxis
- 0371* Venous Thromboembolism Prophylaxis
- 0372* Intensive Care Unit Venous Thromboembolism Prophylaxis
- 0373* Venous Thromboembolism Patients with Anticoagulant Overlap Therapy
- 0581* Deep Vein Thrombosis Anticoagulation >= 3 Months
- 0593* Pulmonary Embolism Anticoagulation >= 3 Months

Antibiotic Prophylaxis

- 0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients
- 0128 Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients
- 0264 Prophylactic Intravenous (IV) Antibiotic Timing [ASC]
- 0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin [clinician]
- 0269 Timing of Prophylactic Antibiotics - Administering Physician [clinician]
- 0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures) [clinician]
- 0472* Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section.
- 0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision [hospital]
- 0528 Prophylactic Antibiotic Selection for Surgical Patients
- 0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time [hospital]

Care Coordination

- 0646* Reconciled Medication List Received by Discharged Patients (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care)
- 0647* Transition Record with Specified Elements Received by Discharged Patients (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care)
- 0648* Timely Transmission of Transition Record (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care)
- 0649* Transition Record with Specified Elements Received by Discharged Patients (Emergency Department Discharges to Ambulatory Care [Home/Self Care] or Home Health Care)

Adverse Outcomes

- 0450* Postoperative Pulmonary Embolism or Deep Vein Thrombosis Rate (PSI 12)
- 0138* National Healthcare Safety Network (NHSN) Catheter-associated Urinary Tract Infection (CAUTI) Outcome Measure
- 0751* Risk Adjusted Urinary Tract Infection Outcome Measure After Surgery
- 0139 National Healthcare Safety Network (NHSN) Central line-associated Bloodstream Infection (CLABSI) Outcome Measure
- 0753* American College of Surgeons – Centers for Disease Control and Prevention (ACS-CDC) Harmonized Procedure Specific Surgical Site Infection (SSI) Outcome Measure
- 0530* Mortality for Selected Conditions
- 0697 Risk Adjusted Case Mix Adjusted Elderly Surgery Outcomes Measure
- 0351 Death among surgical inpatients with serious, treatable complications (PSI 4)
- 0533 Postoperative Respiratory Failure Rate (PSI 11)
- 0347* Death Rate in Low-Mortality Diagnosis Related Groups (PSI 2)
- 0352* Failure to Rescue In-Hospital Mortality (risk adjusted)
- 0353* Failure to Rescue 30-Day Mortality (risk adjusted)
- 0702* Intensive Care Unit (ICU) Length-of-Stay (LOS)
- 0703* Intensive Care: In-hospital mortality rate
- 0344* Accidental Puncture or Laceration Rate (PDI 1)
- 0345* Accidental Puncture or Laceration Rate (PSI 15)
- 0346* Iatrogenic Pneumothorax Rate (PSI 6)
- 0348* Iatrogenic Pneumothorax Rate (PDI 5)
- 0349* Transfusion Reaction (PSI 16)
- 0350* Transfusion Reaction (PDI 13)
- 0362* Foreign Body left after procedure (PDI 3)
- 0363* Foreign Body Left During Procedure (PSI 5)
- 0531* Patient Safety for Selected Indicators (PSI 90)

Ambulatory Surgery Centers

- 0263 Patient Burn
- 0265* All-Cause Hospital Transfer/Admission
- 0266* Patient Fall
- 0267* Wrong Site, Wrong Side, Wrong Patient, Wrong Procedure, Wrong Implant

Abdominal and Colo-rectal Surgery

- 0365 Pancreatic Resection Mortality Rate (IQI 9)
- 0366 Pancreatic Resection Volume (IQI 2)
- 0738 Survival Predictor for Pancreatic Resection Surgery©
- 0273 Perforated Appendix Admission Rate (PQI 2)
- 0706 Risk Adjusted Colon Surgery Outcome Measure

- 0225* At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer.
- 0392* Colorectal Cancer Resection Pathology Reporting- pT category (primary tumor) and pN category (regional lymph nodes) with histologic grade

Bariatric Surgery

- 2557 Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures
- 2556 Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity
- 2559 Bariatric Surgery Hospital Accreditation

Breast Surgery

- 0221* Needle biopsy to establish diagnosis of cancer precedes surgical excision/resection
- 0219* Post breast conservation surgery irradiation

Cardiac Surgery

- 0119 Risk-Adjusted Operative Mortality for CABG
- 2558: Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
- 0120 Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR)
- 0121 Risk-Adjusted Operative Mortality for Mitral Valve (MV) Replacement
- 0122 Risk-Adjusted Operative Mortality MV Replacement + CABG Surgery
- 0123 Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) + CABG Surgery
- 1501 Risk-Adjusted Operative Mortality for Mitral Valve (MV) Repair
- 1502 Risk-Adjusted Operative Mortality for MV Repair + CABG Surgery
- 0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
- 0130 Risk-Adjusted Deep Sternal Wound Infection Rate
- 0131 Risk-Adjusted Stroke/Cerebrovascular Accident
- 0114 Risk-Adjusted Postoperative Renal Failure
- 0115 Risk-Adjusted Surgical Re-exploration
- 0696 The STS CABG Composite Score
- 2561: STS Aortic Valve Replacement (AVR) Composite Score
- 2563: STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score
- 0236 Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
- 0127 Preoperative Beta Blockade
- 0300 Cardiac Surgery Patients With Controlled Postoperative Blood Glucose
- 0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients
- 0128 Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients
- 0134 Use of Internal Mammary Artery (IMA) in Coronary Artery Bypass Graft (CABG)
- 0116 Anti-Platelet Medication at Discharge

- 0117 Beta Blockade at Discharge
- 0118 Anti-Lipid Treatment Discharge
- 0113 Participation in a Systematic Database for Cardiac Surgery

Eye Surgery

- 0564* Complications within 30 Days Following Cataract Surgery Requiring Additional Surgical Procedures
- 0565* Cataracts: 20/40 or Better Visual Acuity within 90 Days Following Cataract Surgery
- 1536* Cataracts: Improvement in Patient's Visual Function within 90 Days Following Cataract Surgery

GU and GYN

- 1853* Radical Prostatectomy Pathology Reporting
- 0389* Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients
- 0390* Prostate Cancer: Adjuvant Therapy for High Risk Prostate Cancer Patients
- 2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse
- 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
- 0567* APPROPRIATE WORK UP PRIOR TO ENDOMETRIAL ABLATION PROCEDURE

Orthopedic Surgery

- 1550 Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)
- 1551 Hospital-level 30-day, all-cause risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)

Pediatric Surgery

- 0339 RACHS-1 Pediatric Heart Surgery Mortality
- 0340 Pediatric Heart Surgery Volume (PDI 7)
- 0532* Pediatric Patient Safety for Selected Indicators (PDI 19)
- 0713 Ventriculoperitoneal (VP) shunt malfunction rate in children
- 0714 Standardized mortality ratio for neonates undergoing non-cardiac surgery
- 0715* Standardized adverse event ratio for children < 18 years of age undergoing cardiac catheterization
- 0732 Surgical Volume for Pediatric and Congenital Heart Surgery: Total Programmatic Volume and Programmatic Volume Stratified by the Five STS-EACTS Mortality Categories
- 0733 Operative Mortality Stratified by the Five STS-EACTS Mortality Categories

- 0734 Participation in a National Database for Pediatric and Congenital Heart Surgery

Thoracic Surgery

- 0737 Survival Predictor for Esophagectomy Surgery©
- 0460* Risk-Adjusted Morbidity and Mortality for Esophagectomy for Cancer
- 0360 Esophageal Resection Mortality Rate (IQI 8)
- 0361 Esophageal Resection Volume (IQI 1)
- 1790* Risk-Adjusted Morbidity and Mortality for Lung Resection for Lung Cancer
- 0459* Risk-Adjusted Morbidity: Length of Stay >14 Days After Elective Lobectomy for Lung Cancer
- 0455* Recording of Clinical Stage Prior to Surgery for Lung Cancer or Esophageal Cancer Resection
- 0457* Recording of Performance Status prior to Lung or Esophageal Cancer Resection
- 0458 Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)
- 0456 Participation in a Systematic National Database for General Thoracic Surgery

Vascular Surgery

- 1523 In-hospital mortality following elective open repair of AAAs
- 1534 In-hospital mortality following elective EVAR of AAAs
- 0357 Abdominal Aortic Aneurysm (AAA) Repair Volume (IQI 4)
- 0359 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate (IQI 11)
- 0736 Survival Predictor for Abdominal Aortic Aneurysm (AAA)©
- 1540 Postoperative Stroke or Death in Asymptomatic Patients undergoing Carotid Endarterectomy
- 1543 Postoperative Stroke or Death in Asymptomatic Patients undergoing Carotid Artery Stenting
- 0465 Perioperative Anti-platelet Therapy for Patients undergoing Carotid Endarterectomy
- 1519 Statin Therapy at Discharge after Lower Extremity Bypass (LEB)
- 0251* Vascular Access—Functional Arteriovenous Fistula (AVF) or AV Graft or Evaluation for Placement
- 0257* Hemodialysis Vascular Access- Maximizing Placement of Arterial Venous Fistula (AVF)

Appendix C: Surgery Portfolio—Use In Federal Programs

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
0284	Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; PPS-Exempt Cancer Hospital Quality Reporting
0669	Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac, Low Risk Surgery	Hospital Outpatient Quality Reporting
0670	Cardiac stress imaging not meeting appropriate use criteria: Preoperative evaluation in low risk surgery patients	Physician Quality Reporting System (PQRS)
0454	Perioperative Temperature Management	Physician Feedback; Physician Quality Reporting System (PQRS)
0453	Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; Meaningful Use (EHR Incentive Program) - Hospitals, CAHs; PPS-Exempt Cancer Hospital Quality Reporting
0464	Prevention of Catheter-Related Bloodstream Infections (CRBSI) – Central Venous Catheter	Physician Feedback; Physician Quality Reporting System (PQRS)

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
1789	Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)	Hospital Inpatient Quality Reporting
2158	Payment-Standardized Medicare Spending Per Beneficiary (MSPB)	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing
0178	Improvement in status of surgical wounds [home health]	Home Health Quality Reporting
0218	Surgery Patients Who Received Appropriate Venous Thromboembolism (VTE) Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; PPS-Exempt Cancer Hospital Quality Reporting
0239	Perioperative Care: Venous Thromboembolism (VTE) Prophylaxis	Physician Feedback;#Physician Quality Reporting System (PQRS)
0371	Venous Thromboembolism Prophylaxis	Hospital Inpatient Quality Reporting; Meaningful Use (EHR Incentive Program) - Hospitals, CAHs
0372	Intensive Care Unit Venous Thromboembolism Prophylaxis	Hospital Inpatient Quality Reporting; Meaningful Use (EHR Incentive Program) - Hospitals, CAHs
0373	Venous Thromboembolism Patients with Anticoagulant Overlap Therapy	Hospital Inpatient Quality Reporting; Meaningful Use (EHR Incentive Program) - Hospitals, CAHs

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
0581	Deep Vein Thrombosis Anticoagulation >= 3 Months	Physician Feedback
0593	Pulmonary Embolism Anticoagulation >= 3 Months	Physician Feedback
0264	Prophylactic Intravenous (IV) Antibiotic Timing [ASC]	Ambulatory Surgical Center Quality Reporting
0268	Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin [clinician]	Hospital Outpatient Quality Reporting; Physician Feedback; Physician Quality Reporting System (PQRS)
0269	Timing of Prophylactic Antibiotics - Administering Physician [clinician]	Physician Feedback; Physician Quality Reporting System (PQRS)
0271	Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures) [clinician]	Physician Feedback; Physician Quality Reporting System (PQRS)
0527	Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision [hospital]	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; Meaningful Use (EHR Incentive Program) - Hospitals, CAHs; PPS-Exempt Cancer Hospital Quality Reporting
0528	Prophylactic Antibiotic Selection for Surgical Patients	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; Meaningful Use (EHR Incentive Program) - Hospitals, CAHs; PPS-Exempt Cancer Hospital Quality Reporting; HRSA

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
0529	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time [hospital]	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; PPS-Exempt Cancer Hospital Quality Reporting
0648	Timely Transmission of Transition Record (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care)	Dual Eligibles Core Quality Measures- Capitated Demonstrations; Dual Eligibles Core Quality Measures- Managed Fee For Service Demonstrations; Initial Core Set of Health Care Quality Measures for Medicaid-Eligible Adults
0138	National Healthcare Safety Network (NHSN) Catheter-associated Urinary Tract Infection (CAUTI) Outcome Measure	Hospital Acquired Condition Reduction Program; Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; Inpatient Rehabilitation Facilities Quality Reporting; Long-term Care Hospital Quality Reporting; PPS-Exempt Cancer Hospital Quality Reporting
0139	National Healthcare Safety Network (NHSN) Central line-associated Bloodstream Infection (CLABSI) Outcome Measure	Children's Health Insurance Program Reauthorization Act Quality Reporting; Hospital Acquired Condition Reduction Program; Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; Long-term Care Hospital Quality Reporting; PPS-Exempt Cancer Hospital Quality Reporting
0753	American College of Surgeons – Centers for Disease Control and Prevention (ACS-CDC) Harmonized Procedure Specific Surgical Site Infection (SSI) Outcome Measure	Hospital Acquired Condition Reduction Program; Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing; PPS-Exempt Cancer Hospital Quality Reporting
0351	Death among surgical inpatients with serious, treatable complications (PSI 4)	Hospital Inpatient Quality Reporting

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
0531	Patient Safety for Selected Indicators (PSI 90)	Hospital Acquired Condition Reduction Program; Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing
0263	Patient Burn	Ambulatory Surgical Center Quality Reporting
0265	All-Cause Hospital Transfer/Admission	Ambulatory Surgical Center Quality Reporting
0266	Patient Fall	Ambulatory Surgical Center Quality Reporting
0267	Wrong Site, Wrong Side, Wrong Patient, Wrong Procedure, Wrong Implant	Ambulatory Surgical Center Quality Reporting
0392	Colorectal Cancer Resection Pathology Reporting- pT category (primary tumor) and pN category (regional lymph nodes) with histologic grade	Physician Feedback; Physician Quality Reporting System (PQRS)
0129	Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)	Physician Feedback; Physician Quality Reporting System (PQRS)
0130	Risk-Adjusted Deep Sternal Wound Infection Rate	Physician Feedback; Physician Quality Reporting System (PQRS)

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
0131	Risk-Adjusted Stroke/Cerebrovascular Accident	Physician Feedback; Physician Quality Reporting System (PQRS)
0114	Risk-Adjusted Postoperative Renal Failure	Physician Feedback; Physician Quality Reporting System (PQRS)
0115	Risk-Adjusted Surgical Re-exploration	Physician Feedback; Physician Quality Reporting System (PQRS)
0236	Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery	Physician Feedback; Physician Quality Reporting System (PQRS)
0300	Cardiac Surgery Patients With Controlled Postoperative Blood Glucose	Hospital Inpatient Quality Reporting; Hospital Value-Based Purchasing
0134	Use of Internal Mammary Artery (IMA) in Coronary Artery Bypass Graft (CABG)	Physician Feedback; Physician Quality Reporting System (PQRS)
0116	Anti-Platelet Medication at Discharge	Physician Feedback; Physician Quality Reporting System (PQRS)
0117	Beta Blockade at Discharge	Physician Feedback; Physician Quality Reporting System (PQRS)
0118	Anti-Lipid Treatment Discharge	Physician Feedback; Physician Quality Reporting System (PQRS)

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
0113	Participation in a Systematic Database for Cardiac Surgery	Hospital Inpatient Quality Reporting
0564	Complications within 30 Days Following Cataract Surgery Requiring Additional Surgical Procedures	Ambulatory Surgical Center Quality Reporting; Meaningful Use (EHR Incentive Program) - Eligible Professionals; Physician Feedback; Physician Quality Reporting System (PQRS)
0565	Cataracts: 20/40 or Better Visual Acuity within 90 Days Following Cataract Surgery	Meaningful Use (EHR Incentive Program) - Eligible Professionals; Physician Feedback;#Physician Quality Reporting System (PQRS)
1536	Cataracts: Improvement in Patient's Visual Function within 90 Days Following Cataract Surgery	Physician Quality Reporting System (PQRS)
1853	Radical Prostatectomy Pathology Reporting	Physician Quality Reporting System (PQRS)
0389	Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients	Meaningful Use (EHR Incentive Program) - Eligible Professionals; Physician Feedback; Physician Quality Reporting System (PQRS); PPS-Exempt Cancer Hospital Quality Reporting
0390	Prostate Cancer: Adjuvant Therapy for High Risk Prostate Cancer Patients	Physician Feedback; Physician Quality Reporting System (PQRS); PPS-Exempt Cancer Hospital Quality Reporting
0567	Appropriate Work Up Prior To Endometrial Ablation Procedure	Physician Feedback

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
1550	Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)	Hospital Inpatient Quality Reporting
1551	Hospital-level 30-day, all-cause risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)	Hospital Inpatient Quality Reporting; Hospital Readmission Reduction Program
0455	Recording of Clinical Stage Prior to Surgery for Lung Cancer or Esophageal Cancer Resection	Physician Feedback;#Physician Quality Reporting System (PQRS)
0457	Recording of Performance Status prior to Lung or Esophageal Cancer Resection	Physician Quality Reporting System (PQRS)
0458	Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)	Physician Quality Reporting System (PQRS)
1534	In-hospital mortality following elective EVAR of AAAs	Physician Quality Reporting System (PQRS)

NQF #	Title	Federal Programs: Finalized as of December 1, 2013
1540	Postoperative Stroke or Death in Asymptomatic Patients undergoing Carotid Endarterectomy	Physician Quality Reporting System (PQRS)
1543	Postoperative Stroke or Death in Asymptomatic Patients undergoing Carotid Artery Stenting	Physician Quality Reporting System (PQRS)
0257*	Hemodialysis Vascular Access-Maximizing Placement of Arterial Venous Fistula (AVF)	End-Stage Renal Disease Quality Incentive Program

Appendix D: Project Standing Committee and NQF Staff

STANDING COMMITTEE

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Appendix E: Implementation Comments

Comments received as of May 2, 2014

Topic	Commenter	Comment
2038 - Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse	Submitted by Dr. John Austin, PhD	From: Johns Hopkins Health System We support this measure. While the measure does set a fairly low bar, it doe good starting point. One possible unintended consequence of this measure in that surgeons migh diagnostic codes for prolapse in order to eliminate cases from the denominat
2063 - Performing cystoscopy at the time of hysterectomy for pelvic organ prolapse to detect lower urinary tract injury	Submitted by Dr. John Austin, PhD	From: Johns Hopkins Health System We support this measure. While the measure does set a fairly low bar, it doe good starting point. It may not be possible to collect data from current administrative practices re cystoscopy at the time of hysterectomy. The cystoscopy is not coded separat coding), so that could be a challenge. One possible unintended consequence of this measure in that surgeons migh diagnostic codes for prolapse in order to eliminate cases from the denominat
2561 - STS Aortic Valve Replacement (AVR) Composite Score	Submitted by Dr. John Austin, PhD	From: Johns Hopkins Health System We believe STS has developed a very good comprehensive measure of surgica has the added benefit of not requiring any additional data collection.

2563 - STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG)	Submitted by Dr. John Austin, PhD	From: Johns Hopkins Health System We believe STS has developed a very good comprehensive measure of surgica has the added benefit of not requiring any additional data collection.

Appendix F: Measure Specifications

	0114 Risk-Adjusted Postoperative Renal Failure
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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
Type	Outcome
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 Attachment S.15._Isolated_CABG_Risk_Model_Specifications.docx
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Numerator – During the hospitalization for surgery, which includes the entire postoperative period up to discharge, even if over 30 days Denominator – 12 months
Numerator Statement	Number of patients undergoing isolated CABG who develop postoperative renal failure or require dialysis
Numerator Details	Definition of renal failure/dialysis requirement – Patients with acute renal failure or worsening renal function resulting in one or both of the following: - Increase of serum creatinine to 4.0 or higher, or 3x the most recent preoperative creatinine level - New requirement for dialysis postoperatively Number of isolated CABG procedures in which postoperative renal failure [CRenFail (STS Adult Cardiac Surgery Database Version 2.73)] is marked as "yes"
Denominator Statement	All patients undergoing isolated CABG
Denominator Details	Number of isolated CABG procedures including re-operations; the SQL code used to create the function to identify cardiac procedures is provided in the appendix.
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
Exclusion details	(Dialysis) is marked yes; Last Creatinine Level (CreatLst) is 4.0 or higher
Risk Adjustment	Statistical risk model The details of the risk adjustment model development were published in 2009. The list of candidate risk predictors were picked by surgeon panel based on prior research and clinical expertise. Initial models were selected using a backwards approach with a Available in attached Excel or csv file at S.2b

	0114 Risk-Adjusted Postoperative Renal Failure
Stratification	N/A
Type Score	Rate/proportion better quality = lower score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0115 : Risk-Adjusted Surgical Re-exploration 0116 : Anti-Platelet Medication at Discharge 0117 : Beta Blockade at Discharge 0118 : Anti-Lipid Treatment Discharge 0127 : Preoperative Beta Blockade 0119 : Risk-Adjusted Operative Mortality for CABG 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0134 : Use of Internal Mammary Artery (IMA) in Coronary Artery Bypass Graft (CABG) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A

	0119 Risk-Adjusted Operative Mortality for CABG
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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
Type	Outcome
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 Attachment S.15._Isolated_CABG_Risk_Model_Specifications-635307506255634552.doc
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Numerator – During hospitalization regardless of length of stay or within 30 days of surgery if discharged Denominator – 12 months
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
Numerator	Number of isolated CABG procedures with an operative mortality;

	0119 Risk-Adjusted Operative Mortality for CABG
Details	Number of isolated CABG procedures in which Mortality [Mortalty (STS Adult Cardiac Surgery Database Version 2.73)] and Mortality Operative Death (MtOpD) are marked "yes." Operative mortality is further verified by the following variables: Mortality Status at 30 days (Mt30Stat), Mortality Date (MtDate), Mortality Discharge Status (MtDCStat)
Denominator Statement	All patients undergoing isolated CABG
Denominator Details	Number of isolated CABG procedures. The SQL code used to create the function to identify cardiac procedures is provided in the appendix.
Exclusions	N/A
Exclusion details	N/A
Risk Adjustment	Statistical risk model The details of the risk adjustment model development were published in 2009. The list of candidate risk predictors were selected by a surgeon panel based on prior research and clinical expertise. Initial models were selected using a backwards approach wit Available in attached Excel or csv file at S.2b
Stratification	N/A
Type Score	Rate/proportion better quality = lower score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0114 : Risk-Adjusted Postoperative Renal Failure 0115 : Risk-Adjusted Surgical Re-exploration 0116 : Anti-Platelet Medication at Discharge 0117 : Beta Blockade at Discharge 0118 : Anti-Lipid Treatment Discharge 0120 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) 0127 : Preoperative Beta Blockade 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0134 : Use of Internal Mammary Artery (IMA) in Coronary Artery Bypass Graft (CABG) 0123 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) + CABG Surgery 0121 : Risk-Adjusted Operative Mortality for Mitral Valve (MV) Replacement 0122 : Risk-Adjusted Operative Mortality MV Replacement + CABG Surgery 1501 : Risk-Adjusted Operative Mortality for Mitral Valve (MV) Repair 1502 : Risk-Adjusted Operative Mortality for MV Repair + CABG Surgery 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value: N/A

	0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
Description	Percent of patients aged 18 years and older undergoing isolated CABG who require intubation for more than 24 hours postoperatively
Type	Outcome
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 Attachment S.15._Isolated_CABG_Risk_Model_Specifications.doc
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Numerator – During the hospitalization for surgery, which includes the entire postoperative period up to discharge, even if over 30 days Denominator – 12 months
Numerator Statement	Number of patients undergoing isolated CABG who require intubation > 24 hours following exit from the operating room
Numerator Details	Number of isolated CABG procedures in which Prolonged Ventilation (CPVntLng) is marked "yes" The hours of postoperative ventilation time include OR exit until extubation, plus any additional hours following reintubation.
Denominator Statement	All patients undergoing isolated CABG
Denominator Details	Number of isolated CABG procedures. The SQL code used to create the function to identify cardiac procedures is provided in the appendix.
Exclusions	N/A
Exclusion details	N/A
Risk Adjustment	Statistical risk model The details of the risk adjustment model development were published in 2009. The list of candidate risk predictors were selected by a surgeon panel based on prior research and clinical expertise. Initial models were selected using a backwards approach wit Available in attached Excel or csv file at S.2b
Stratification	N/A
Type Score	Rate/proportion better quality = lower score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0114 : Risk-Adjusted Postoperative Renal Failure 0115 : Risk-Adjusted Surgical Re-exploration 0116 : Anti-Platelet Medication at Discharge 0117 : Beta Blockade at Discharge 0118 : Anti-Lipid Treatment Discharge 0119 : Risk-Adjusted Operative Mortality for CABG 0127 : Preoperative Beta Blockade 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate

	0129 Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)
	0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0134 : Use of Internal Mammary Artery (IMA) in Coronary Artery Bypass Graft (CABG) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value: N/A

	0131 Risk-Adjusted Stroke/Cerebrovascular Accident
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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
Type	Outcome
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 Attachment S.15._Isolated_CABG_Risk_Model_Specifications-635307594428525960.docx
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Numerator – During the hospitalization for surgery, which includes the entire postoperative period up to discharge, even if over 30 days. Denominator – 12 months
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
Numerator Details	Number of isolated CABG procedures in which postoperative stroke [CNStrokP (STS Adult Cardiac Surgery Database Version 2.73)] is marked "yes"
Denominator Statement	All patients undergoing isolated CABG
Denominator Details	Number of isolated CABG procedures. The SQL code used to create the function to identify cardiac procedures is provided in the appendix.
Exclusions	N/A
Exclusion details	N/A
Risk Adjustment	Statistical risk model The details of risk adjustment model development were published in 2009. The list of candidate risk predictors were picked by surgeon panel based on prior research and clinical expertise. Initial models were selected using a backwards approach with a sign Available in attached Excel or csv file at S.2b

	0131 Risk-Adjusted Stroke/Cerebrovascular Accident
Stratification	N/A
Type Score	Rate/proportion better quality = lower score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0114 : Risk-Adjusted Postoperative Renal Failure 0115 : Risk-Adjusted Surgical Re-exploration 0116 : Anti-Platelet Medication at Discharge 0117 : Beta Blockade at Discharge 0118 : Anti-Lipid Treatment Discharge 0119 : Risk-Adjusted Operative Mortality for CABG 0127 : Preoperative Beta Blockade 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0134 : Use of Internal Mammary Artery (IMA) in Coronary Artery Bypass Graft (CABG) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value: N/A

	0178 Improvement in status of surgical wounds
Status	Steering Committee Review
Steward	Centers for Medicare & Medicaid Services
Description	Percentage of home health episodes of care during which the patient demonstrates an improvement in the condition of surgical wounds.
Type	Outcome
Data Source	Electronic Clinical Data The measure is calculated based on data obtained from the Home Health Outcome and Assessment Information Set (OASIS-C), which is a core standard assessment data set that home health agencies integrate into their own patient-specific, comprehensive assessm Available at measure-specific web page URL identified in S.1 Attachment OASISQM_data_dictionary.xls
Level	Facility
Setting	Home Health
Time Window	CMS systems report data on episodes that end within a rolling 12 month period, updated quarterly.
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.
Numerator Details	Home health episodes of care from the denominator in which the value recorded for the OASIS-C item M1342 (“Status of Most Problematic (Observable) Surgical Wound”) on the

	0178 Improvement in status of surgical wounds
	discharge assessment is numerically less than the value recorded on the start (or resumption) of care assessment, indicating less impairment at discharge compared to start of care, OR the response to the OASIS-C item M1340 ("Surgical Wound") at discharge is zero (No), indicating that there are no current surgical wounds remaining.
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.
Denominator Details	All home health episodes of care (except those defined in the denominator exclusions) in which the patient was eligible to improve in the status of their most problematic (observable) surgical wound (i.e., had an observable surgical wound and were not at the optimal level of health status according to the "Status of Most Problematic (Observable) Surgical Wound" OASIS-C item M1342).
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.
Exclusion details	Home health episodes of care for which [1] at start/resumption of care OASIS item M1340 = 0, indicating the patient did not have any surgical wounds, or item M1342 = 0, indicating the patient's wound was already epithelialized, OR (2) at either start/resumption of care or discharge, OASIS item 1340 = 2, indicating the patient had only a surgical wound that was unobservable, or (3) the patient did not have a discharge assessment because the episode of care ended in transfer to inpatient facility or death at home and OR (4) All episodes covered by the generic exclusions. Generic Exclusions: Medicare-certified home health agencies are currently required to collect and submit OASIS data only for adult (aged 18 and over) non-maternity Medicare and Medicaid patients who are receiving skilled home health care. Therefore, maternity patients, patients less than 18 years of age, non-Medicare/Medicaid patients, and patients who are not receiving skilled home services are all excluded from the measure calculation. However, the OASIS items and related measures could potentially be used for other adult patients receiving services in a community setting, ideally with further testing. The publicly-reported data on CMS' Home Health Compare web site also repress cells with fewer than 20 observations, and reports for home health agencies in operation less than six months.
Risk Adjustment	Statistical risk model The risk adjustment methodology used is based on logistic regression analysis which results in a statistical prediction model for each outcome measure. For each home health agency patient who is included in the denominator of the outcome measure, the mode Provided in response box S.15a
Stratification	Not applicable
Type Score	Rate/proportion better quality = higher score
Algorithm	IF M0100_ASSMT_REASON[2] = 09 ' Discharged, other than to an inpatient facility. THEN IF M1340_SRGCL_WND_PRSNT[1] = 01 AND M1342_STUS_PRBLM_SRGCL_WND[1] > 00 AND M1340_SRGCL_WND_PRSNT[2] <> 02 'Case is excluded if no surgical wound or fully epithelialized wound at start/resumption of care or wound is unobservable at discharge. THEN IF M1340_SRGCL_WND_PRSNT[2] = 00 OR M1342_STUS_PRBLM_SRGCL_WND[2] < M1342_STUS_PRBLM_SRGCL_WND[1] 'No surgical wound at discharge or healing status at

	0178 Improvement in status of surgical wounds

	discharge is better than at start/resumption of care.
	THEN
	Imprv_Status_Wounds = 1 'Case included in numerator.
	ELSE
	Imprv_Status_Wounds = 0 'Case not included in numerator.
	END IF
	ELSE
	Imprv_Status_Wounds = MISSING 'Case excluded from denominator
	END IF
	ELSE
	Imprv_Status_Wounds = MISSING 'Case excluded from denominator
	END IF
	Risk Adjustment: The expected probability for a patient is calculated using the following formula:
	E(x) = 1/(1+e-(a + sum(b i x i)))
	Where:
	E(x) = expected probability of achieving outcome x
	a = constant parameter listed in the model documentation
	b i = coefficient for risk factor i in the model documentation
	x i = value of risk factor i for this patient
	Expected probabilities for all patients included in the measure denominator are then averaged to derive an expected outcome value for the agency. This expected value is then used, together with the observed (unadjusted) outcome value and the expected value for the national population of home health agency patients for the same data collection period, to calculated a risk-adjusted outcome value for the home health agency. The formula for the adjusted value of the outcome measure is as follows:
	X(A r a) = X(A obs) + X(N exp) – X(A exp)
	Where:
	X(A r a) = Agency risk-adjusted outcome measure value
	X(A obs) = Agency observed outcome measure value
	X(A exp) = Agency expected outcome measure value
	X(N exp) = National expected outcome measure value
	Note that OASIS data items are referred to using field names specified in OASIS Data Submission Specifications published by CMS. For additional details, please consult the technical specifications available at:
	https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/HHQIQualityMeasures.html No diagram provided

Copyright / Disclaimer	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value: Not applicable. There are several NQF endorsed measures that address outcomes for specific types of surgery (CABG,

	0178 Improvement in status of surgical wounds
	Cataract and Colon) and one measure that addresses mortality and morbidity following surgery in the elderly population (NQF# 0697). We did n

	0456 Participation in a Systematic National Database for General Thoracic Surgery
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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.
Type	Structure
Data Source	Electronic Clinical Data : Registry STS General Thoracic Surgery Database – Version 2.2 Available at measure-specific web page URL identified in S.1 No data dictionary
Level	Facility, Clinician : Group/Practice, Clinician : Individual
Setting	Hospital/Acute Care Facility
Time Window	36 months
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
Numerator Details	Participation in the STS General Thoracic Surgery Database is initiated by the surgeons and or/hospital and requires semiannual submission via an approved software system to the Duke Clinical Research Institute (DCRI), the data repository for the three STS Databases. The General Thoracic Surgery Database accepts data from General Surgeons performing Thoracic procedures as well as Thoracic Surgeons.
Denominator Statement	N/A
Denominator Details	N/A
Exclusions	N/A
Exclusion details	N/A
Risk Adjustment	No risk adjustment or risk stratification
Stratification	N/A
Type Score	Categorical, e.g., yes/no passing score defines better quality
Algorithm	N/A No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0113 : Participation in a Systematic Database for Cardiac Surgery 0734 : Participation in a National Database for Pediatric and Congenital Heart Surgery 0493 : Participation by a physician or other clinician in systematic clinical database registry that includes consensus endorsed quality measures 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Different patient

	0456 Participation in a Systematic National Database for General Thoracic Surgery
	populations 5b.1 If competing, why superior or rationale for additive value:

	0734 Participation in a National Database for Pediatric and Congenital Heart Surgery
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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.
Type	Structure
Data Source	Electronic Clinical Data : Registry STS Congenital Heart Surgery Database Version 3.22 Available at measure-specific web page URL identified in S.1 No data dictionary
Level	Facility, Clinician : Group/Practice, Population : National
Setting	Hospital/Acute Care Facility
Time Window	Time Window: One year (12 months) and 4 years (48 months)
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.
Numerator Details	Participation is defined as submission of all congenital and pediatric operations performed to the database.
Denominator Statement	NA
Denominator Details	N/A
Exclusions	N/A
Exclusion details	N/A
Risk Adjustment	No risk adjustment or risk stratification
Stratification	N/A
Type Score	Categorical, e.g., yes/no passing score defines better quality
Algorithm	No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0113 : Participation in a Systematic Database for Cardiac Surgery 0456 : Participation in a Systematic National Database for General Thoracic Surgery 0493 : Participation by a physician or other clinician in systematic clinical database registry that includes consensus endorsed quality measures 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Different patient populations

	0734 Participation in a National Database for Pediatric and Congenital Heart Surgery
	5b.1 If competing, why superior or rationale for additive value:

	2052 Reduction of Complications through the use of Cystoscopy during Surgery for Stress Urinary Incontinence
Status	Steering Committee Review
Steward	American Urological Association
Description	Percentage of SUI surgeries for which cystoscopy was used during the surgical procedure to reduce complications
Type	Process
Data Source	Administrative claims, Paper Medical Records No data collection instrument provided No data dictionary
Level	Clinician : Individual
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	12 months
Numerator Statement	Female patients who had SUI surgery for which cystoscopy was used during the surgical procedure to reduce complications
Numerator Details	The numerator will be calculated using CPT codes: 52000
Denominator Statement	Female patients who had SUI surgeries (without concomitant surgery for prolapse
Denominator Details	The denominator will be calculated using CPT codes and patient characteristics, such as gender and age (adult patients): 51840 51841 51845 51990 51992 57287 57288 57289
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.
Exclusion details	Exclusions will be calculated using CPT codes and patient characteristics, such as gender and age. Concomitant prolapse surgery includes repair of cystocele, enterocele, rectocele or vaginal vault prolapse or hysterectomy performed due to uterine prolapse. Exclusions: 57240 57250 57260 57265

	2052 Reduction of Complications through the use of Cystoscopy during Surgery for Stress Urinary Incontinence
	57267 57280 57282 57283 57425
Risk Adjustment	
Stratification	
Type Score	Rate/proportion better quality = higher score
Algorithm	See algorithm in 2a2.2
Copyright / Disclaimer	5.1 Identified measures: 0030 : Urinary Incontinence Management in Older Adults - a. Discussing urinary incontinence, b. Receiving urinary incontinence treatment – A patient reported measure 0098 : Urinary Incontinence: Assessment, Characterization, and Plan of Care for Urinary Incontinence in Women Aged 65 Years and Older 0099 : Urinary Incontinence: Characterization of Urinary Incontinence in Women Aged 65 Years and Older 0100 : Urinary Incontinence: Plan of Care for Urinary Incontinence in Women Aged 65 Years and Older 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: As a rule, AUA/ACOG seek to harmonize proposed measures with those currently in use for the same topics. For example, the first of the proposed measures “Complete Workup for Assessment of Stress Urinary Incontinence” describes procedures consistent with common standard practices. In developing the proposed set of measures, extant performance measures were considered and kept in mind but were of limited usefulness because they were designed to apply to urinary incontinence in general and to women over 65 years of age. In contrast, we required measures that focused on the surgical intervention for SUI in particular and included women under 65 year of age who constitute the majority of those affected by SUI.As a rule, AUA/ACOG seek to harmonize proposed measures with those currently in use for the same topics. For example, the first of the proposed measures “Complete Workup for Assessment of Stress Urinary Incontinence” describes procedures consistent with common standard practices. In developing the proposed set of measures, extant performance measures were considered and kept in mind but were of limited usefulness because they were designed to apply to urinary incontinence in general and to women over 65 years of age. In contrast, we required measures that focused on the surgical intervention for SUI in particular and included women under 65 year of age who constitute the majority of those affected by SUI. 5b.1 If competing, why superior or rationale for additive value:

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

	2063 Performing cystoscopy at the time of hysterectomy for pelvic organ prolapse to detect lower urinary tract injury
Steward	American Urogynecologic Society
Description	Percentage of patients who undergo cystoscopy to evaluate for lower urinary tract injury at the time of hysterectomy for pelvic organ prolapse.
Type	Process
Data Source	Electronic Clinical Data : Electronic Health Record, Paper Medical Records No data collection instrument provided No data dictionary
Level	Clinician : Group/Practice, Clinician : Individual
Setting	Hospital/Acute Care Facility
Time Window	12 months
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.
Numerator Details	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) who have concomitant cystoscopy identified upon review of the operative report in the electronic medical record or paper chart.
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).
Denominator Details	Hysterectomy (identified by CPT codes) performed for the indication of pelvic organ prolapse (identified by supporting ICD9/ICD10 codes) The prolapse codes for ICD9 -> ICD-10 are, respectively: 618.01 -> N81.10, Cystocele, midline 618.02 -> N81.12, Cystocele, lateral 618.03 -> N81.0, Urethrocele 618.04 -> N81.6, Rectocele 618.05 -> N81.81, Perineocele 618.2 -> N81.2, Incomplete uterovaginal prolapse 618.3 -> N81.3, Complete uterovaginal prolapse 618.4 -> N81.4, Uterovaginal prolapse, unspecified 618.6 -> N81.5, Vaginal enterocele 618.7 -> N81.89, Old laceration of muscles of pelvic floor 618.81 -> N81.82, incompetence or weakening of pubocervical tissue 618.82 -> N81.83, incompetence or weakening of rectovaginal tissue 618.83 -> N81.84, pelvic muscle wasting CPT codes for hysterectomy are: 57530 Trachelectomy 58150 Total Abdominal Hysterectomy (Corpus and Cervix), w/ or w/out Removal of Tube(s), w/ or w/out Removal of Ovary(s) 58152 Total Abdominal Hysterectomy (Corpus and Cervix), w/ or w/out Removal of Tube(s), w/ or w/out Removal of Ovary(s), with Colpo-Urethrocystopexy (e.g. Marshall-Marchetti-Krantz, Burch) 58180 Supracervical Abdominal Hysterectomy (Subtotal Hysterectomy), w/ or w/out Removal of Tube(s), w/ or w/out Removal of Ovary(s) 58260 Vaginal Hysterectomy, for Uterus 250 G or Less

	2063 Performing cystoscopy at the time of hysterectomy for pelvic organ prolapse to detect lower urinary tract injury
	58262 Vaginal Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s), and/or Ovary(s) 58263 Vaginal Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s), and/or Ovary(s), with Repair of Enterocele 58267 Vaginal Hysterectomy, for Uterus 250 G or Less, with Colpo-Urethrocystopexy (Marshall-Marchetti-Krantz Type, Pereyra Type), w/ or w/out Endoscopic Control 58270 Vaginal Hysterectomy, for Uterus 250 G or Less, with Repair of Enterocele 58275 Vaginal Hysterectomy, with Total or Partial Vaginectomy 58280 Vaginal Hysterectomy, with Total or Partial Vaginectomy, with Repair of Enterocele 58290 Vaginal Hysterectomy, for Uterus Greater than 250 G 58291 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s) 58292 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s), with Repair of Enterocele 58293 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Colpo-Urethrocystopexy (Marshall-Marchetti-Krantz Type, Pereyra Type) 58294 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Repair of Enterocele 58541 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus 250 G or Less 58542 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s) and/or Ovary(s) 58543 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus Greater than 250 G 58544 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s) 58550 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus 250 G or Less 58552 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s) and/or Ovary(s) 58553 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus Greater than 250 G 58554 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s) 58570 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus 250 G or Less 58571 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s) and/or Ovary(s) 58572 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus Greater than 250 G 58573 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s)
Exclusions	There are no exclusions from the target population.
Exclusion details	There are no exclusions from the target population.
Risk Adjustment	No risk adjustment or risk stratification We are not planning to risk adjust this measure.
Stratification	We do not plan to stratify the results.
Type Score	Rate/proportion better quality = higher score
Algorithm	1. Denominator: Patients of a specific surgeon or group undergoing hysterectomy or trachelectomy for diagnosis of prolapse as defined by CPT and ICD-9/10 codes are identified from administrative data. 2. Numerator: Electronic medical record or paper chart operative notes are reviewed to

	2063 Performing cystoscopy at the time of hysterectomy for pelvic organ prolapse to detect lower urinary tract injury
	identify the performance of a cystoscopy at the time of the procedure identified in the denominator. 3. The numerator is divided by the denominator and multipled by 100 to calcualte a percentage (rate/proportion) No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value:

	2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
Status	Steering Committee Review
Steward	Centers for Medicare & Medicaid Services
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.
Type	Outcome
Data Source	Administrative claims Administrative Claims: The Medicare data sources used to create the measure were: 1) Medicare Part A inpatient and Outpatient and Part B outpatient claims from the Standard Analytic File, including inpatient and outpatient claims for the 12 months prior No data collection instrument provided Attachment Yale-CORE_CABG_Mortality_Measure_Excel_Attachment_3-26-14_Final.xlsx
Level	Facility
Setting	Hospital/Acute Care Facility
Time Window	Numerator time window: 30 days from the procedure date of index CABG procedure. Denominator time window: this measure was developed using claims data from calendar year 2009. The time period for public reporting has not been determined.
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.
Numerator Details	(Note: This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year); thus, we are using this field to define the outcome and to which hospital the outcome is attributed when there are multiple hospitalizations within a single episode of care.)

	2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
	This is an all-cause mortality measure and therefore any death within 30 days of the index procedure date from the index hospitalization is included in the measure outcome. Deaths are identified in the Medicare Enrollment Database. Outcome Attribution: Attribution of the outcome in situations where a patient has multiple contiguous admissions, at least one of which involves an index CABG procedure (i.e., the patient is either transferred into the hospital that performs the index CABG or is transferred out to another hospital following the index CABG) is as follows: - If a patient undergoes a CABG procedure in the first hospital and is then transferred to a second hospital where there is no CABG procedure, the mortality outcome is attributed to the first hospital performing the index CABG procedure and the 30-day window starts with the date of index CABG procedure. Rationale: A transfer following CABG is most likely due to a complication of the index procedure and that care provided by the hospital performing the CABG procedure likely dominates mortality risk even among transferred patients. - If a patient is admitted to a first hospital but does not receive a CABG procedure there and is then transferred to a second hospital where a CABG is performed, the mortality outcome is attributed to the second hospital performing the index CABG procedure and the 30-day window starts with the date of index CABG procedure. Rationale: Care provided by the hospital performing the CABG procedure likely dominates mortality risk. -If a patient undergoes a CABG procedure in the first hospital and is transferred to a second hospital where another CABG procedure is performed, the mortality outcome is attributed to the first hospital performing the index (first) CABG procedure and the 30-day window starts with the date of index CABG procedure. Rationale: A transfer following CABG is most likely due to a complication of the index procedure, and care provided by the hospital performing the index CABG procedure likely dominates mortality risk even among transferred patients.
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
Denominator Details	(Note: This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year). We therefore use this field to define the measure cohort.) The index cohort includes admissions for patients aged 18 years or older who received a qualifying “isolated” CABG procedure (CABG procedure without other concurrent major cardiac procedure such as valve replacement). The measure was developed in a cohort of patients 65 years and older who were enrolled in Medicare Fee-for-Service (FFS) and admitted to non-federal hospitals. To be included in the Medicare FFS cohort, patients had to have a qualifying isolated CABG procedure AND had to be continuously enrolled in Medicare FFS one year prior to the first day of the index hospitalization and through 30 days post-procedure. This cohort is defined using the ICD-9 Clinical Modification (ICD-9-CM) procedure codes identified in Medicare Part A Inpatient claims data. An ICD-9 to ICD-10 crosswalk is attached in field S.2b. (Data Dictionary or Code Table). In order to create a clinically coherent population for risk adjustment and in accordance with existing NQF-approved CABG measures and clinical expert opinion, the measure is intended to capture isolated CABG patients (i.e., patients

	2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
	undergoing CABG procedures without concomitant valve or other major cardiac or vascular procedures see exclusion). ICD-9-CM procedure codes that indicate a patient has undergone a NON-isolated CABG procedure (CABG surgeries that occur concomitantly with procedures that elevate patients' mortality risk) and thus does not meet criteria for inclusion in the measure cohort are listed in the attached Excel file (see tab S.9). ICD-9-CM codes that define the cohort: 36.1x - Aortocoronary bypass for heart revascularization, not otherwise specified 36.11 - (Aorto) coronary bypass of one coronary artery 36.12 - (Aorto) coronary bypass of two coronary arteries 36.13 - (Aorto) coronary bypass of three coronary arteries 36.14 - (Aorto) coronary bypass of four or more coronary arteries 36.15 - Single internal mammary- coronary artery bypass 36.16 - Double internal mammary- coronary artery bypass 36.17 - Abdominal- coronary artery bypass 36.19 - Other bypass anastomosis for heart revascularization
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.
Exclusion details	For all cohorts, hospitalizations for: 1) Patients with inconsistent or unknown vital status or other unreliable data are identified if any of the following conditions are met 1) the patient's age is greater than 115 years: 2) if the discharge date for a hospitalization is before the admission date; 3) if the patient has a sex other than 'male' or 'female'. 2) Patients who leave hospital against medical advice (AMA) are identified using the discharge disposition indicator in the Standard Analytic File (SAF). 3) Subsequent qualifying CABG procedures during the measurement period are identified by the ICD-9 codes defining CABG listed in denominator details.
Risk Adjustment	Statistical risk model Our approach to risk adjustment is tailored to and appropriate for a publicly reported outcome measure, as articulated in the American Heart Association (AHA) Scientific Statement, "Standards for Statistical Models Used for Public Reporting of Health Outc Available in attached Excel or csv file at S.2b
Stratification	Results of this measure will not be stratified.
Type Score	Rate/proportion better quality = lower score

	2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
Algorithm	We calculate hospital-specific risk-standardized mortality rates. These rates are obtained as the ratio of predicted to expected deaths, multiplied by the national unadjusted rate. The "predicted" number of deaths (the numerator) is calculated using the coefficients estimated by regressing the risk factors and the hospital-specific intercept on the risk of mortality. The estimated hospital-specific intercept is added to the sum of the estimated regression coefficients multiplied by the patient characteristics. The results are then transformed and summed over all patients attributed to a hospital to get a predicted value. The "expected" number of deaths (the denominator) is obtained in the same manner, but a common intercept using all hospitals in our sample is added in place of the hospital-specific intercept. The results are then transformed and summed over all patients in the hospital to get an expected value. To assess hospital performance for each reporting period, we re-estimate the model coefficients using the years of data in that period. Please see the calculation algorithm attachment for more details. Available in attached appendix at A.1
Copyright / Disclaimer	5.1 Identified measures: 0114 : Risk-Adjusted Postoperative Renal Failure 0115 : Risk-Adjusted Surgical Re-exploration 0119 : Risk-Adjusted Operative Mortality for CABG 0122 : Risk-Adjusted Operative Mortality MV Replacement + CABG Surgery 0123 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) + CABG Surgery 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0229 : Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following heart failure (HF) hospitalization for patients 18 and older. 0230 : Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following acute myocardial infarction (AMI) hospitalization for patients 18 and older. 0468 : Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following pneumonia hospitalization 0535 : 30-day all-cause risk-standardized mortality rate following percutaneous coronary intervention (PCI) for patients without ST segment elevation myocardial infarction (STEMI) and without cardiogenic shock 0536 : 30-day all-cause risk-standardized mortality rate following Percutaneous Coronary Intervention (PCI) for patients with ST segment elevation myocardial infarction (STEMI) or cardiogenic shock 1502 : Risk-Adjusted Operative Mortality for MV Repair + CABG Surgery 1893 : Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) following Chronic Obstructive Pulmonary Disease (COPD) Hospitalization 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: The target population for the proposed CABG mortality measure and all of the above measures that have different measure focus but same target population is isolated CABG patients. The clinical cohort exclusions are harmonized to the extent possible given the differences between clinical and administrative data. The exclusions are nearly identical to the STS measures' cohort exclusions with the exception of epicardial MAZE procedures; STS excludes these procedures from the registry-based CABG mortality measure cohort because the version of registry data

	2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
	used for measure development did not allow for differentiation of epicardial and open maze procedures. The measures with similar measure focus but different target population differ from the proposed CABG mortality measure both in the period they observe the patient for the outcome and in their target populations. The STS measures listed assess both deaths occurring during the CABG hospitalization (in-hospital death, even if after 30 days) and deaths occurring within 30 days of procedure date. The proposed CABG mortality measure counts death within 30 days post-procedure, using a standard period of follow-up for all patients consistent with other publicly reported measures. The standard period is necessary so the outcome for each patient is measured consistently. Without a standard measurement period, variation in length of stay could have an undue influence on mortality rates.The proposed CABG mortality measure is harmonized with the above measures to the extent possible given the different data sources used for development and reporting. We did not include in our list of related measures any non-outcome (e.g., process) measures with the same target population as our measure. Our measure cohort was heavily vetted by clinical experts, a technical expert panel, and a public comment period. In addition, the related claims-based CABG readmission measure, which utilizes the same definition of isolated CABG as the mortality measure, was validated using STS clinical registry data. Because this is an outcome measure, clinical coherence of the cohort takes precedence over alignment with related non-outcome measures. Furthermore, non-outcome measures are limited due to broader patient exclusions. This is because they typically only include a specific subset of patients who are eligible for that measure (for example, patients who receive a specific medication or undergo a specific procedure). 5b.1 If competing, why superior or rationale for additive value: The NQF-endorsed STS measure that has the same target population and similar measure focus as the proposed CABG mortality measure is the Risk-adjusted operative mortality for CABG (NQF #0119). The measure steward for the registry-based mortality measure f

	2561 STS Aortic Valve Replacement (AVR) Composite Score
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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.
Type	Composite Measure
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014 Available at measure-specific web page URL identified in S.1

	2561 STS Aortic Valve Replacement (AVR) Composite Score
	S.2b._-_S.15._Detailed_Risk_Model_Specifications.STS_AVR_Composite_Score.docx
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Please see Appendix
Numerator Statement	Please see Appendix
Numerator Details	Please see Appendix
Denominator Statement	Please see Appendix
Denominator Details	Please see Appendix
Exclusions	Please see Appendix
Exclusion details	Please see Appendix
Risk Adjustment	Statistical risk model The details of the risk adjustment model were published in 2009 [1]. The list of candidate risk predictors were picked by surgeon panel based on prior research and clinical expertise. Initial models were selected using a step-wise approach with a significance criterion of 0.05 for entry and removal. Five variables were preselected and forced into the models, and they are age, body surface area, gender, age by reoperation interaction, and age by emergent status interaction. The expert panel reviewed the results and made the following changes: (1) "MI less than 24 hours" and "MI 1 to 21 days" were collapsed into a single category; (2) Preoperative atrial fibrillation was forced into the model for stroke (CVA); and (3) An indicator variable for dialysis was forced into any model that included creatinine level. The mortality model published in 2009 is used to risk-adjust the mortality component of the STS isolated AVR composite measure. The morbidity or mortality model is used to risk-adjust the morbidity component of the composite measure. The composite mortality or morbidity in the 2009 paper was defined in exactly the same way as the morbidity component of the composite measure except that it also included mortality. Compared to morbidity, mortality is much rarer. The predictors of combined mortality and morbidity are essentially the same as the predicted risk of morbidity alone. At the participant level, raw morbidity rates and raw mortality or morbidity rates have very high correlation (Pearson=0.976, Spearman=0.974.) Because of this similarity, instead of devising a new model, we used the published and endorsed model for our any-or-none morbidity component in the composite measure. 1. O'Brien SM, Shahian DM, Filardo G, et al. The Society of Thoracic Surgeons 2008 cardiac surgery risk models: part 2—isolated valve surgery. Ann Thorac Surg 2009;88(1 Suppl):S23–42. Available in attached Excel or csv file at S.2b
Stratification	N/A
Type Score	Rate/proportion better quality = higher score

	2561 STS Aortic Valve Replacement (AVR) Composite Score
Algorithm	Please see discussion under section S.4 and attached articles.
Copyright / Disclaimer	5.1 Identified measures: 0120 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0115 : Risk-Adjusted Surgical Re-exploration 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0114 : Risk-Adjusted Postoperative Renal Failure 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A

	2563 STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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 clinical data collected in a prospective registry and are risk-adjusted.
Type	Composite Measure
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 S.2b. - S.15. Detailed Risk Model Specifications.STS AVR-CABG Composite Score.docx
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Please see Appendix
Numerator Statement	Please see Appendix

	2563 STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score
Numerator Details	Please see Appendix
Denominator Statement	Please see Appendix
Denominator Details	Please see Appendix
Exclusions	Please see Appendix
Exclusion details	Please see Appendix
Risk Adjustment	Statistical risk model The details of the risk adjustment model were published in 2009 [1]. The list of candidate risk predictors were selected by a surgeon panel based on prior research and clinical expertise. Initial models were selected using a step-wise approach with a significance criterion of 0.05 for entry and removal. The following five variables were preselected and forced into the models – age, body surface area, gender, age by reoperation interaction, and age by emergent status interaction. The expert panel reviewed the results and made a few changes to the models selected by the step-wise procedure: 1) Preoperative atrial fibrillation was forced into the model for permanent stroke; 2) An indicator variable for dialysis was forced into any model that included creatinine (this did not apply to the renal failure model, as patients with preoperative dialysis were excluded); 3) Sex was forced into all models; and 4) Each variable that interacted with surgery group was also included as a main effect. The mortality model published in 2009 is used to risk-adjust the mortality component of the STS AVR + CABG composite measure. The morbidity or mortality model is used to risk-adjust the morbidity component of the composite measure. The composite mortality or morbidity in the 2009 paper was defined in exactly the same way as the morbidity component of the composite measure except that it also included mortality. Compared to morbidity, mortality is much rarer. The predictors of combined mortality and morbidity are essentially the same as the predicted risk of morbidity alone. At the participant level, raw morbidity rates and raw mortality or morbidity rates have very high correlation (Pearson=0.972, Spearman=0.974.) Because of this similarity, instead of devising a new model, we used the published model for our any-or-none morbidity component in the composite measure. References: 1. Shahian DM, O'Brien SM, Filardo G, Ferraris VA, et al. The Society of Thoracic Surgeons 2008 cardiac surgery risk models: part 3--valve plus coronary artery bypass grafting surgery. Ann Thorac Surg 2009 Jul;88(1 Suppl):S43-62. Available in attached Excel or csv file at S.2b
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	Please see discussion under section S.4 and attached article.

	2563 STS Aortic Valve Replacement (AVR) + Coronary Artery Bypass Graft (CABG) Composite Score
Copyright / Disclaimer	5.1 Identified measures: 0123 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) + CABG Surgery 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0115 : Risk-Adjusted Surgical Re-exploration 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0114 : Risk-Adjusted Postoperative Renal Failure 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A

	0113 Participation in a Systematic Database for Cardiac Surgery
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
Description	Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data
Type	Structure
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 No data dictionary
Level	Facility, Clinician : Group/Practice, Population : National
Setting	Hospital/Acute Care Facility
Time Window	12 months
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)
Numerator Details	Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data. Participation in the STS Adult Cardiac Surgery Database, for example, is initiated by the surgeons and/or hospital and is defined as quarterly submission of 100% of cases via an approved software system to the Duke Clinical Research Institute, the data repository for the three STS Databases. STS's audit cross-checks submitted cases against hospital logs to assure all cases have been captured.
Denominator Statement	N/A
Denominator	N/A

	0113 Participation in a Systematic Database for Cardiac Surgery
Details	
Exclusions	N/A
Exclusion details	N/A
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Categorical passing score defines better quality
Algorithm	N/A No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0456 : Participation in a Systematic National Database for General Thoracic Surgery 0734 : Participation in a National Database for Pediatric and Congenital Heart Surgery 0493 : Participation by a physician or other clinician in systematic clinical database registry that includes consensus endorsed quality measures 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Different patient populations 5b.1 If competing, why superior or rationale for additive value:

	0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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.
Type	Process
Data Source	Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 No data dictionary
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Denominator – 12 months
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.
Numerator Details	Number of cardiac surgery procedures in which appropriate antibiotic selection (AbxSelect) is marked “yes”
Denominator	Number of patients undergoing cardiac surgery

	0126 Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients
Statement	
Denominator Details	Number of cardiac surgery procedures; the SQL code used to create the function used to identify cardiac procedures is provided in the appendix.
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.
Exclusion details	AbxSelect is marked "Exclusion"
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0268 : Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin 0528 : Prophylactic Antibiotic Selection for Surgical Patients 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Data sources are different (i.e., our measure is collected in the STS Adult Cardiac Surgery Database, a reputable clinical registry established in 1989), and the target population for our measure is specific to cardiac surgery. 5b.1 If competing, why superior or rationale for additive value: Please see above

	0128 Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
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.
Type	Process
Data Source	Electronic Clinical Data : Electronic Health Record, Paper Medical Records, Electronic Clinical Data : Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 No data dictionary
Level	Facility, Clinician : Group/Practice, Clinician : Individual
Setting	Hospital/Acute Care Facility
Time Window	Numerator – Within 48 hours after surgery end time Denominator – 12 months
Numerator	Number of patients undergoing cardiac surgery whose prophylactic antibiotics were ordered

	0128 Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients
Statement	to be discontinued OR were discontinued within 48 hours after surgery end time.
Numerator Details	STS Adult Cardiac Surgery Database – Number of cardiac surgery procedures in which appropriate antibiotic discontinuation [AbxDisc (STS Adult Cardiac Surgery Database Version 2.73)] is marked "yes" One CPT II code and one quality-data code [4043F & G8702] are required on the claim form. CPT II 4043F: Documentation that an order was given to discontinue prophylactic antibiotics within 48 hours of surgical end time, cardiac procedures AND G8702: Documentation that prophylactic antibiotics were given within 4 hours prior to surgical incision or intraoperatively
Denominator Statement	Number of patients undergoing cardiac surgery
Denominator Details	Number of cardiac surgery procedures; STS Adult Cardiac Surgery Database – the SQL code used to create the function used to identify cardiac procedures is provided in the appendix. CPT Codes 33120, 33130, 33140, 33141, 33250, 33251, 33256, 33261, 33305, 33315, 33332, 33335, 33365, 33366, 33400, 33401, 33403, 33404, 33405, 33406, 33410, 33411, 33413, 33416, 33422, 33425, 33426, 33427, 33430, 33460, 33463, 33464, 33465, 33475, 33496, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33530, 33533, 33534, 33535, 33536, 33542, 33545, 33548, 33572
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.
Exclusion details	STS Adult Cardiac Surgery Database – AbxDisc is marked "Exclusion" One CPT II code and one quality-data code [4043F & G8702] are required on the claim form. Append a modifier (1P) to CPT Category II code 4043F to report documented circumstances that appropriately exclude patients from the denominator. 4043F with 1P: Documentation of medical reason(s) for not discontinuing prophylactic antibiotics within 48 hours of surgical end time, cardiac procedures AND G8702: Documentation that prophylactic antibiotics were given within 4 hours prior to surgical incision or intraoperatively
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0271 : Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures) 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: The target population for our measure is specific to cardiac surgery. In addition, For most procedures, the duration of antibiotic prophylaxis should be 24 hours or less, with the exception of cardiothoracic procedures regarding which evidence indicates that antibiotic prophylaxis of 48 hours duration is effective. 5b.1 If competing, why superior or rationale for additive value: N/A

	0269 Timing of Prophylactic Antibiotics - Administering Physician
Status	Steering Committee Review
Steward	American Society of Anesthesiologists (ASA)
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)
Type	Process
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Medical Records, Electronic Clinical Data : Registry Data is gathered by the Anesthesia Quality Institute and the National Anesthesia Clinical Outcomes Registry. Data source for reporting also includes the Medicare Limited Data Set - 5% File. No data collection instrument provided No data dictionary
Level	Facility, Clinician : Group/Practice, Clinician : Individual
Setting	Ambulatory Care : Ambulatory Surgery Center (ASC), Hospital/Acute Care Facility
Time Window	Data from the CMS 5% file are analyzed for 2010, 2011 and 2012. Data from the National Anesthesia Clinical Outcomes Registry are analyzed for 2010, 2011, 2012 and 2013.
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). 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
Numerator Details	Numerator Instructions: This measure seeks to identify the timely administration of prophylactic parenteral antibiotic. This administration should begin within one hour (if fluoroquinolone or vancomycin, two hours) prior to surgical incision. The antimicrobial drugs listed below are considered prophylactic parenteral antibiotics for the purposes of this measure. 4048F-8P should be reported when antibiotics from this table were

	0269 Timing of Prophylactic Antibiotics - Administering Physician
	not ordered. • Ampicillin/sulbactam • Aztreonam • Cefazolin • Cefmetazole • Cefotetan • Cefoxitin • Cefuroxime • Ciprofloxacin • Clindamycin • Ertapenem • Erythromycin base • Fluoroquinolone • Gatifloxacin • Gentamicin • Levofloxacin • Metronidazole • Moxifloxacin • Neomycin • Vancomycin Numerator Note: "Ordered" includes instances in which the prophylactic parenteral antibiotic is ordered by the clinician performing the surgical procedure OR is ordered by the clinician providing the anesthesia services. Documentation that Prophylactic Parenteral Antibiotic was Administered Within Specified Timeframe CPT II 4048F: Documentation that administration of prophylactic parenteral antibiotic was initiated within one hour (if fluoroquinolone or vancomycin, two hours) prior to surgical incision (or start of procedure when no incision is required) as ordered OR Prophylactic Parenteral Antibiotic not Administered for Medical Reasons (eg, contraindicated, patient already receiving antibiotics) Append a modifier (1P) to CPT Category II code 4048F to report documented circumstances that appropriately exclude patients from the denominator. 4048F with 1P: Documentation of medical reason(s) for not initiating administration of prophylactic parenteral antibiotics as specified (eg, contraindicated, patient already receiving antibiotics) OR If patient is not eligible for this measure because prophylactic parenteral antibiotic not ordered, report: Prophylactic Parenteral Antibiotic not Ordered Append a reporting modifier (8P) to CPT Category II code 4047F to report circumstances when the patient is not eligible for the measure. 4047F with 8P: No documentation of order for prophylactic parenteral antibiotics to be given within one hour (if fluoroquinolone or vancomycin, two hours) prior to surgical incision (or start of procedure when no incision is required)

	0269 Timing of Prophylactic Antibiotics - Administering Physician
	OR Prophylactic Parenteral Antibiotic Ordered but not Initiated Within One Hour, Reason not Otherwise Specified Append a reporting modifier (8P) to CPT Category II code 4048F to report circumstances when the action described in the numerator is not performed and the reason is not otherwise specified. 4048F with 8P: Administration of prophylactic parenteral antibiotic was not initiated within one hour (if fluoroquinolone or vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required), reason not otherwise specified
Denominator Statement	All surgical patients aged 18 years and older who receive an anesthetic when undergoing procedures with the indications for prophylactic parenteral antibiotics.
Denominator Details	DENOMINATOR NOTE: Anesthesia services included in denominator are associated with some surgical procedures for which prophylactic parenteral antibiotics may not be indicated. Clinicians should report 4047F-8P for those instances in which anesthesia services are provided but not associated with surgical procedures for which prophylactic parenteral antibiotics are indicated. Denominator Criteria (Eligible Cases): Patients aged =18 years on date of encounter AND Patient encounter during the reporting period (CPT): Anesthesia codes for which prophylactic parenteral antibiotics are commonly indicated for associated surgical procedure(s): 00100, 00102, 00103, 00120, 00140, 00145, 00147, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00450, 00452, 00454, 00470, 00472, 00474, 00500, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00561, 00562, 00563, 00566, 00567, 00580, 00600, 00604, 00620, 00622, 00625, 00626, 00630, 00632, 00634, 00670, 00700, 00730, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00820, 00830, 00832, 00840, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 01120, 01140, 01150, 01170, 01173, 01180, 01190, 01202, 01210, 01212, 01214, 01215, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01360, 01382, 01392, 01400, 01402, 01404, 01430, 01432, 01440, 01442, 01444, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01500, 01502, 01520, 01522, 01610, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01710, 01712, 01714, 01716, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01924, 01925, 01926, 01951, 01952, 01953, 01961, 01962, 01963, 01965, 01966, 01968, 01969
Exclusions	There are no denominator exclusions for this measure.
Exclusion details	N/A
Risk Adjustment	No risk adjustment or risk stratification The question does not apply to this measure. The measure is not risk adjusted.
Stratification	This question does not apply to this measure. The measure is not risk adjusted.
Type Score	Ratio better quality = higher score
Algorithm	This question does not apply to this measure. The measure is not risk adjusted. No diagram provided

	0269 Timing of Prophylactic Antibiotics - Administering Physician
Copyright / Disclaimer	5.1 Identified measures: 0264 : Prophylactic Intravenous (IV) Antibiotic Timing 0270 : Perioperative Care: Timing of Prophylactic Parenteral Antibiotics – Ordering Physician 0472 : Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section. 0527 : Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: The American Society of Anesthesiologists is willing to facilitate harmonization efforts with related measures and will cooperate with any stewards to accomplish harmonization. ASA has identified four measures that are related to but not competing with NQF #0269 and each identified prophylactic antibiotic ordering and administration. NQF #0269 is specific to patients who receive an anesthetic when undergoing procedures with the indications for prophylactic parenteral antibiotics and targets patients 18 years and older. The measure captures whether the ordered antibiotic was administered within the stated timeframe. CPT codes associated with the denominator of NQF #0269 are anesthesia-specific. NQF #0264: Prophylactic Intravenous (IV) Antibiotic Timing Measure Steward: ASC Quality Collaboration NQF #0264 does not exclude patients based on age but rather includes all ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection. Exceptions include preoperative order for a prophylactic IV antibiotic for prevention of infections other than surgical site infections as well as if the order for a prophylactic antibiotic was not administered by the intravenous route. NQF #0270: Perioperative Care: Timing of Prophylactic Parenteral Antibiotics – Ordering Physician. Measure Steward: American Medical Association – Physician Consortium for Performance Improvement (AMA-PCPI). NQF #0270 targets patients 18 years and older. NQF #0270 is specific for surgeon reporting as identified by the associated CPT codes. NQF #0472: Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean Section. Measure Steward: Massachusetts General Hospital/Partners Health Care System. NQF #0472 targets all patients undergoing cesarean section without evidence of prior infection or already receiving prophylactic antibiotics for other reasons. The measure is limited to cesarean section whose target population is Maternal Health. The measure also limits the classes of antibiotics to use as consisted with current evidence and practice guidelines for cesarean section. The measure uses hospital quality measurement systems that rely on ICD-9 procedure codes for reporting the denominator. NQF #0527: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision. Measure Steward: Centers for Medicare & Medicaid Services (CMS). NQF #0527 measures surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision (two hours for vancomycin or a fluoroquinolone) but excludes ten patient populations including patients under 18 years old, patients who have a length of stay greater than 120 days, have had a hysterectomy and a caesarean section performed during this hospitalization, patients enrolled in clinical trials, patients whose ICD-9-CM principal procedure occurred prior to the date of admission, patients with 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 prior for CABG or Other Cardiac Surgery) prior to or after procedure of interest, patients who were receiving antibiotics 24 hours prior to surgery and patients who were receiving antibiotics within 24 hours prior to arrival. 5b.1 If competing, why superior or rationale for additive value: There are related measures

	0269 Timing of Prophylactic Antibiotics - Administering Physician
	but no competing measures for NQF #0269.

	0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
Status	Steering Committee Review
Steward	American Medical Association - Physician Consortium for Performance Improvement (AMA-PCPI)
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
Type	Process
Data Source	Administrative claims Not applicable No data collection instrument provided Attachment 0271_CPT_Procedure_Codes_Mar2014-635306626058051961.xls
Level	Clinician : Group/Practice, Clinician : Individual
Setting	Ambulatory Care : Ambulatory Surgery Center (ASC), Hospital/Acute Care Facility
Time Window	Once for each surgical procedure performed during the measurement period.
Numerator Statement	Non-cardiac surgical patients who have an order for discontinuation of prophylactic parenteral antibiotics within 24 hours of surgical end time
Numerator Details	Numerator Instructions: There must be documentation of order (written order, verbal order, or standing order/protocol) specifying that prophylactic parenteral antibiotic is to be discontinued within 24 hours of surgical end time OR specifying a course of antibiotic administration limited to that 24 hour period (eg, "to be given every 8 hours for three doses" or for "one time" IV dose orders) OR documentation that prophylactic parenteral antibiotic was discontinued within 24 hours of surgical end time. For Claims: CPT II 4049F: Documentation that order was given to discontinue prophylactic antibiotics within 24 hours of surgical end time, non-cardiac procedure Note: CPT Category II code 4049F is provided for documentation that antibiotic discontinuation was ordered or that antibiotic discontinuation was accomplished. Report CPT Category II code 4049F if antibiotics were discontinued within 24 hours.
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
Denominator Details	For Claims: Patients aged >= 18 years AND CPT procedure code: See attachment for applicable CPT codes (including procedures in the following families: abdomen, peritoneum, and omentum; acoustic neuroma; bariatric; biliary tract; breast; cardiothoracic (pacemaker); cochlear implants; colon; endocrine; esophagus; foot and ankle; general surgery; general thoracic surgery; glossectomy; gynecologic surgery; hip reconstruction; integumentary – repair; knee reconstruction; laryngectomy; le fort fractures; liver; mandibular fracture; Meckel's diverticulum and appendix; mediastinum and

	0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
	diaphragm; neurological surgery; pancreas; rectum; renal transplantation; small intestine; spine; spleen and lymphatic; stomach (other than bariatric); trauma (fractures)/hip fracture surgery; vascular) AND CPT II 4046F: Documentation that prophylactic antibiotics were given within 4 hours prior to surgical incision or given intraoperatively
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))
Exclusion details	The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure 0271: Perioperative Care: Discontinuation of prophylactic parenteral antibiotics (non-cardiac procedures), exceptions may include medical reason(s) (eg, documented infection prior to surgery) for not discontinuing prophylactic parenteral antibiotics within 24 hours of surgical end time. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities for quality improvement. Additional details by data source are as follows: Report CPT Category II code 4049F with 1P: Documentation of medical reason(s) for not discontinuing prophylactic antibiotics within 24 hours of surgical end time
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	We encourage the results of this measure to be stratified by race, ethnicity, primary language, and administrative sex.
Type Score	Rate/proportion better quality = higher score
Algorithm	To calculate performance rates: 1) Find the patients who meet the initial patient population (ie, the general group of patients that a set of performance measures is designed to address). 2) From the patients within the initial patient population criteria, find the patients who qualify for the denominator (ie, the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial patient population and denominator are identical. 3) From the patients within the denominator, find the patients who qualify for the Numerator (ie, the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator

	0271 Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)
	4) From the patients who did not meet the numerator criteria, determine if the physician has documented that the patient meets any criteria for exception when exceptions have been specified [for this measure: medical reason(s) (eg, patient infection prior to surgery)]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (ie, percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0529 : Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time 0128 : Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: 0529 is a facility level measure that includes a selected range of surgical procedures, our measure is an individual clinician-level measure that includes a broad range of non-cardiac procedures 0129 focuses on cardiac surgical procedures, our measure focuses on non-cardiac procedures 5b.1 If competing, why superior or rationale for additive value: While the general focus of the measures is similar, the scope and target populations of the measures are different. Our measure is specified at the clinician level, but measure results can be aggregated at a higher level of measurement.

	0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
Status	Steering Committee Review
Steward	Centers for Medicare & Medicaid Services
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.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records Most facilities use vendors to collect and submit the data electronically. CMS provides a free, downloadable tool called CART. A paper tool modeled after the data collected electronically is provided as an attachment. CART downloads can be found on Qualit Available at measure-specific web page URL identified in S.1 Attachment AppA_C_for_NQF.xls
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility
Time Window	Hospitals submit data quarterly.

	0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
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).
Numerator Details	Data Elements: Data Elements: • Anesthesia Start Date • Antibiotic Administration Date • Antibiotic Administration Time • Surgical Incision Date • Surgical Incision Time
Denominator Statement	All selected surgical patients with no evidence of prior infection.
Denominator Details	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	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
Exclusion details	Data Elements: • Anesthesia Start Date • Admission Date • Antibiotic Administration Route • Antibiotic Name • Antibiotic Received • Birthdate • Clinical Trial • Discharge Date • ICD-9-CM Principal Diagnosis Code • ICD-9-CM Principal Procedure Code

	0527 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
	• Infection Prior to Anesthesia • Oral Antibiotics • Other Surgeries
Risk Adjustment	No risk adjustment or risk stratification
Stratification	The antibiotic prophylaxis measures are stratified according to surgery type. The tables are subsets of Table 5.10 (see link for Specification Manual and Appendix A, Tables 5.01 to 5.08. The specific procedures must be in the large table (Table 5.10) to b
Type Score	Rate/proportion better quality = higher score
Algorithm	Algorithm narrative available in "Additional" section in spreadsheet, 2nd tab. Available in attached appendix at A.1
Copyright / Disclaimer	5.1 Identified measures: 0264 : Prophylactic Intravenous (IV) Antibiotic Timing 0269 : Timing of Prophylactic Antibiotics - Administering Physician 0270 : Perioperative Care: Timing of Prophylactic Parenteral Antibiotics – Ordering Physician 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: 0264, 0269, 0270 use claims to submit data, so the specifications cannot be aligned. 0125 is the STS measure that is no longer endorsed but still shows up in the search. 5b.1 If competing, why superior or rationale for additive value: The same target population is used, but the entity being evaluated is different. 0527 evaluates the inpatient acute care facility. 0269-0270 evaluate physician actions and 0264 evaluate the Ambulatory Surgical Center. There are different payment systems a

	0528 Prophylactic Antibiotic Selection for Surgical Patients
Status	Steering Committee Review
Steward	Centers for Medicare & Medicaid Services
Description	Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure).
Type	Process
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records Most facilities use vendors to collect the data electronically. CMS provides a free, downloadable tool called CART. A paper tool modeled after the data collected electronically is provided as an attachment. CART downloads can be found on QualityNet.org at Attachment AppA_C_for_NQF-635297854313838316.xls
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility
Time Window	Facilities report data quarterly
Numerator Statement	Number of surgical patients who received prophylactic antibiotics recommended for their specific surgical procedure.
Numerator	Data Elements:

	0528 Prophylactic Antibiotic Selection for Surgical Patients
Details	• Antibiotic Administration Route • Antibiotic Allergy • Antibiotic Name • Oral Antibiotics • Vancomycin
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 sel
Denominator Details	Data Elements: Anesthesia End Date Anesthesia End Time Anesthesia Start Date Admission Date Antibiotic Administration Date Antibiotic Administration Time Antibiotic Received Birthdate Clinical Trial Discharge Date ICD-9-CM Principal Diagnosis Code ICD-9-CM Principal Procedure Code Infection Prior to Anesthesia Perioperative Death Surgical Incision Date Surgical Incision Time
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

	0528 Prophylactic Antibiotic Selection for Surgical Patients
	this hospitalization • Patients who received ONLY oral or intramuscular (IM) antibiotics or the route was unable to be determined • Patients who received ALL antibiotics greater than 1440 minutes prior to Surgical Incision Date and Time
Exclusion details	Data Elements • Anesthesia End Date • Anesthesia End Time • Anesthesia Start Date • Admission Date • Antibiotic Administration Date • Antibiotic Administration Time • Antibiotic Received • Birthdate • Clinical Trial • Discharge Date • ICD-9-CM Other Procedure Codes • ICD-9-CM Principal Diagnosis Code • ICD-9-CM Principal Procedure Code • Infection Prior to Anesthesia • Other Surgeries • Perioperative Death • Surgical Incision Date • Surgical Incision Time
Risk Adjustment	No risk adjustment or risk stratification NA
Stratification	The antibiotic prophylaxis measures are stratified according to surgery type. The tables are subsets of Table 5.10 (see link for Specification Manual and Appendix A, Tables 5.01 to 5.08. The specific procedures must be in the large table (Table 5.10) to b
Type Score	Rate/proportion better quality = higher score
Algorithm	Algorithm narrative available in "Additional" section in spreadsheet, 2nd tab. Available in attached appendix at A.1
Copyright / Disclaimer	5.1 Identified measures: 0126 : Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients 0268 : Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin 1746 : Intrapartum Antibiotic Prophylaxis for Group B Streptococcus (GBS) 0472 : Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section. 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: 0472 covers a surgery that SCIP does not; 1746 is specific to a pathogen; 0268 and 0126 are used in other reporting programs and use claims-based reporting. Specifications are harmonized as much as

	0528 Prophylactic Antibiotic Selection for Surgical Patients
	possible. 5b.1 If competing, why superior or rationale for additive value: See above.

	0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
Status	Steering Committee Review
Steward	Centers for Medicare & Medicaid Services
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.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records Most facilities use vendors to collect the data electronically. CMS provides a free, downloadable tool called CART. A paper tool modeled after the data collected electronically is provided as an attachment. CART downloads can be found on QualityNet.org at Available at measure-specific web page URL identified in S.1 Attachment AppA_C_for_NQF-635297897179406638.xls
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility
Time Window	Facilities report this data quarterly.
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).
Numerator Details	Data Elements: • Anesthesia End Date • Anesthesia End Time • Antibiotic Administration Date • Antibiotic Administration Time
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
Denominator Details	Data Elements: • Admission Date • Anesthesia Start Date • Antibiotic Administration Route • Antibiotic Name • Antibiotic Received • Birthdate

	0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
	• Clinical Trial • Discharge Date • ICD-9-CM Principal Diagnosis Code • ICD-9-CM Principal Procedure Code • Infection Prior to Anesthesia • Oral Antibiotics • Other Surgeries • Perioperative Death • Reasons to Extend Antibiotics • Surgical Incision Date • Surgical Incision 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
Exclusion details	Clinical Trial Infection Prior to Anesthesia Other Surgeries Perioperative Death Reasons to Extend Antibiotics
Risk Adjustment	No risk adjustment or risk stratification

	0529 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
	NA
Stratification	The antibiotic prophylaxis measures are stratified according to surgery type. The tables are subsets of Table 5.10 (see link for Specification Manual and Appendix A, Tables 5.01 to 5.08. The specific procedures must be in the large table (Table 5.10) to b
Type Score	Rate/proportion better quality = higher score
Algorithm	SCIP-Infection (Inf)-3: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time See attachment in "Additional" section Available in attached appendix at A.1
Copyright / Disclaimer	5.1 Identified measures: 0128 : Duration of Antibiotic Prophylaxis for Cardiac Surgery Patients 0271 : Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures) 0637 : Perioperative Care: Discontinuation of Prophylactic Antibiotics (Cardiac Procedures) 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Based on information provided on NQF website, 0128 uses the same specifications as 0529; 0271 is physician level with a claims-based reporting; 0637 comes up in the search but does not appear to be endorsed. It is a PCPI measure, so physician reporting with claims-based data. 5b.1 If competing, why superior or rationale for additive value: NA

	0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
Status	Steering Committee Review
Steward	American Medical Association - Physician Consortium for Performance Improvement (AMA-PCPI)
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
Type	Process
Data Source	Administrative claims Not applicable. No data collection instrument provided Attachment 0268_CPT_Procedure_Codes_Mar2014-635306625656505387.xls
Level	Clinician : Group/Practice, Clinician : Individual
Setting	Ambulatory Care : Ambulatory Surgery Center (ASC), Hospital/Acute Care Facility
Time Window	Once for each surgical procedure performed during the measurement period.
Numerator Statement	Surgical patients who had an order for first OR second generation cephalosporin for antimicrobial prophylaxis
Numerator Details	Numerator Instructions: There must be documentation of an order (written order, verbal order, or standing order/protocol) for a first OR second generation cephalosporin for antimicrobial prophylaxis OR documentation that a first OR second generation cephalosporin was given. In the event surgery is delayed, as long as the patient is redosed (if clinically

	0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
	appropriate) the numerator coding should be applied. For Claims: Currently, G-Code G9197 is used for prospective claims reporting. However, a new CPT Category II code is under development to reflect the updated numerator language for this measure. (CPT Category II code under development): Documentation of medical reason(s) for not ordering a first OR second generation cephalosporin for antimicrobial prophylaxis Note: This code is provided for antibiotic ordered or antibiotic given. Report if a first or second generation cephalosporin was given 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
Denominator Details	For Claims: Patients aged >= 18 years AND CPT procedure code: See attachment for applicable CPT codes (including procedures in the following families: abdomen, peritoneum, and omentum; bariatric; biliary tract; breast; cardiothoracic surgery; colon; endocrine; esophagus; foot and ankle; general surgery; general thoracic surgery; gynecologic surgery; hip reconstruction; integumentary – repair; knee reconstruction; laryngectomy; liver; Meckel's diverticulum and appendix; mediastinum and diaphragm; neurological surgery; pancreas; rectum; renal transplantation; small intestine; spine; spleen and lymphatic; stomach (other than bariatric); trauma (fractures)/hip fracture surgery; vascular)
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))
Exclusion details	The PCPI exception methodology uses three categories of reasons for which a patient may be removed from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure 0268: Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin, exceptions may include medical reason(s) (eg, contraindication) for not ordering a first or second generation cephalosporin. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities for quality improvement. Additional details by data source are as follows: Currently, G-Code G9196 is used for prospective claims reporting. However, a new CPT Category II code is under development to reflect the updated numerator language for this measure. (CPT Category II code under development): Documentation of medical reason(s) for not ordering a first OR second generation cephalosporin for antimicrobial prophylaxis

	0268 Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin
Risk Adjustment	No risk adjustment or risk stratification Not applicable. No risk adjustment or risk stratification.
Stratification	We encourage the results of this measure to be stratified by race, ethnicity, primary language, and administrative sex.
Type Score	Rate/proportion better quality = higher score
Algorithm	To calculate performance rates: 1) Find the patients who meet the initial patient population (ie, the general group of patients that a set of performance measures is designed to address). 2) From the patients within the initial patient population criteria, find the patients who qualify for the denominator (ie, the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial patient population and denominator are identical. 3) From the patients within the denominator, find the patients who qualify for the Numerator (ie, the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator 4) From the patients who did not meet the numerator criteria, determine if the physician has documented that the patient meets any criteria for exception when exceptions have been specified [for this measure: medical reason(s) (eg, contraindication)]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the exception rate (ie, percentage with valid exceptions) should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI. If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0528 : Prophylactic Antibiotic Selection for Surgical Patients 0126 : Selection of Antibiotic Prophylaxis for Cardiac Surgery Patients 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0528 is a facility-level measure that focuses on a selected range of procedures, our measure is an individual-physician level measure that focuses on use of cephalosporins for a broader range of codes. The measures have been harmonized to the extent possible. Measure 0126 focuses on cardiac procedures, while our measure includes a broad range of procedures. 5b.1 If competing, why superior or rationale for additive value: While the general focus of the measures is similar, the scope and target populations of the measures are different. Our measure is specified at the clinician level, but measure results can be aggregated at a higher level of measurement.

	0264 Prophylactic Intravenous (IV) Antibiotic Timing
Status	Steering Committee Review

	0264 Prophylactic Intravenous (IV) Antibiotic Timing
Steward	ASC Quality Collaboration
Description	Rate of ASC patients who received IV antibiotics ordered for surgical site infection prophylaxis on time
Type	Process
Data Source	Other, Paper Medical Records ASC medical records, as well as medication administration records and measure data collection instruments may serve as data sources. No specific collection instrument is required although the ASC Quality Collaboration has developed a sample data collectio Available at measure-specific web page URL identified in S.1 No data dictionary
Level	Facility
Setting	Ambulatory Care : Ambulatory Surgery Center (ASC)
Time Window	In-facility, prior to discharge
Numerator Statement	Number of ambulatory surgical center (ASC) admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection who received the prophylactic antibiotic on time
Numerator Details	DEFINITIONS: Admission: completion of registration upon entry into the facility Prophylactic IV antibiotic for prevention of surgical site infection: an antibiotic prescribed with the intent of reducing the probability of an infection related to an invasive procedure; for purposes of this measures, the following are considered prophylactic for surgical site infection: ampicillin/sulbactam, aztreonam, cefazolin, cefmetazole, cefotetan, cefoxitin, cefuroxime, ciprofloxacin, clindamycin, ertapenem, erythromycin, gatifloxacin, gentamicin, levofloxacin, metronidazole, moxifloxacin, neomycin and vancomycin On time: antibiotic infusion is initiated within one hour prior to the time of the initial surgical incision or the beginning of the procedure (e.g., introduction of endoscope, insertion of needle, inflation of tourniquet) or two hours prior if vancomycin or a fluoroquinolone is administered
Denominator Statement	All ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection
Denominator Details	DEFINITIONS: Admission: completion of registration upon entry into the facility Prophylactic IV antibiotic for prevention of surgical site infection: an antibiotic prescribed with the intent of reducing the probability of an infection related to an invasive procedure; for purposes of this measures, the following are considered prophylactic for surgical site infection: ampicillin/sulbactam, aztreonam, cefazolin, cefmetazole, cefotetan, cefoxitin, cefuroxime, ciprofloxacin, clindamycin, ertapenem, erythromycin, gatifloxacin, gentamicin, levofloxacin, metronidazole, moxifloxacin, neomycin and vancomycin
Exclusions	ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of infections other than surgical site infections (e.g., bacterial endocarditis). ASC admissions with a preoperative order for a prophylactic antibiotic not administered by the intravenous route.
Exclusion details	The denominator exclusions do not require additional data collection. They are included to offer additional clarification to the measure user in order to ensure only the specified admissions are included for measurement.
Risk Adjustment	No risk adjustment or risk stratification Not applicable

	0264 Prophylactic Intravenous (IV) Antibiotic Timing
Stratification	The measure is not stratified.
Type Score	Rate/proportion better quality = higher score
Algorithm	The number of admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection who received the prophylactic antibiotic on time is divided by the number of ASC admissions with a preoperative order for a prophylactic IV antibiotic during the reporting period, yielding the rate of on time prophylactic IV antibiotic administration for the reporting period. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0269 : Timing of Prophylactic Antibiotics - Administering Physician 0270 : Perioperative Care: Timing of Prophylactic Parenteral Antibiotics – Ordering Physician 0527 : Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision 0472 : Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section. 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: NQF #0472: Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section. This measure focuses on timely receipt of prophylactic antibiotics, but the target population is patients undergoing Cesarean section. Ambulatory surgical centers do not perform Cesarean sections, so the measure is not applicable to the ASC setting. NQF #0527: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision. This measure focuses on timely receipt of prophylactic antibiotics prior to surgery, but the target population is patients having major surgery. The denominator population is identified by a list of major operations that are rarely, and often never, performed in the ASC setting (e.g., coronary artery bypass grafting and other cardiac surgery), which is a facility setting for elective, minor surgeries and procedures. This focus on major surgery limits the usability of the measure in ASCs. In addition, the measure is specified using ICD-9-CM procedure codes, which are not included in the standard code set for the outpatient setting. Cross-walking CPT codes to ICD-9 (or ICD-10) procedure codes would add unnecessary burden. NQF #0270: Perioperative Care: Timing of Prophylactic Parenteral Antibiotics – Ordering Physician. This measure focuses on whether the physician order for prophylactic antibiotics specifies the appropriate timeframe prior to surgery, but the target population is primarily patients having major surgery. The measure was developed for use by surgeons, and reflects the broad scope of their professional services. The majority of the operations specified by the denominator are not performed in the ASC setting, which focuses on elective, minor surgeries and procedures that do not require an overnight stay. The focus on major surgery limits its usability in the ASC setting. NQF #0269: Timing of Prophylactic Antibiotics - Administering Physician. This measure focuses on the timely initiation of prophylactic antibiotics prior to surgery, but was developed for use by individual anesthesia professionals. As a result, the denominator is specified by anesthesia CPT codes. Per Federal regulation, ASCs may only provide facility services (and cannot provide professional services), so ASCs do not provide or generate anesthesia CPT codes for professional anesthesia services. As a result, the measure is not feasible and usable as a facility measure for ASCs. 5b.1 If competing, why superior or rationale for additive value: For those who are not intimately familiar with the clinical and operational characteristics of ASCs, some of the measures listed in 5a.1. may appear to be competing measures. However, none is as appropriate and well suited to the ASC setting as the ASC Qu

	0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero
Status	Steering Committee Review
Steward	Centers for Medicare & Medicaid Services
Description	Percentage of Surgical patients greater than 18 years of age with urinary catheter removed on Postoperative Day 1 or Postoperative Day 2 with day of surgery being day zero.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records Vendor tools (electronic) or CART. CART is available for download free at https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093 Available at measure-specific web page URL identified in S.1 Attachment Appendix_A_Tables_5.10_and_5.16__Appendix_C_Tables_3.14_and_3.15.xlsx
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility
Time Window	Arrival through postoperative day 2. Facilities report this data quarterly.
Numerator Statement	Number of surgical patients whose urinary catheter is removed on POD 1 or POD 2 with day of surgery being day zero.
Numerator Details	Number of surgical patients whose urinary catheter is removed on POD 1 or POD 2 with day of surgery being day zero.
Denominator Statement	All selected surgical patients with a catheter in place postoperatively. See S.2b above for code tables.
Denominator Details	Denominator Statement: All selected surgical patients with a catheter in place postoperatively. See S.2b above for code tables. 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).
Exclusions	Excluded Populations: • Patients less than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients enrolled in clinical trials • Patients who had a urological, gynecological or perineal procedure performed (refer to Appendix A, Table 5.16 for ICD-9-CM codes) • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients who expired perioperatively • Patients whose length of stay was less than two days postoperatively • Patients who did not have a catheter in place postoperatively • Patients who had physician/APN/PA documentation of a reason for not removing the urinary catheter postoperatively • Patients who had a urinary diversion or a urethral catheter or were being intermittently catheterized prior to hospital arrival
Exclusion details	• Admission Date • Anesthesia End Date

	0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero
	• Anesthesia Start Date • Birthdate • Clinical Trial • Discharge Date • ICD-9-CM Principal Diagnosis Code • ICD-9-CM Principal Procedure Code • ICD-9-CM Other Procedure Code • Perioperative Death • Reasons for Continuing Urinary Catheterization • Urinary Catheter
Risk Adjustment	No risk adjustment or risk stratification None
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	SCIP-Infection (Inf)-9: Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero. Variable Key: Patient Age, Surgery Days, Days I 1. Start processing. Run cases that are included in the Surgical Care Improvement Project (SCIP) Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure. 2. Calculate Patient Age. The Patient Age, in years, is equal to the Admission Date minus the Birthdate. Use the month and day portion of admission date and birthdate to yield the most accurate age. 3. Check Patient Age a. If Patient Age is less than 18 years, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. b. If Patient Age is greater than or equal to 18 years, continue processing and proceed to ICD-9-CM Principal Procedure Code. 4. Check ICD-9-CM Principal or Other Procedure Code a. If the ICD-9-CM Principal or Other Procedure Code is on Table 5.16, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. b. If the ICD-9-CM Principal or Other Procedure Code is not on Table 5.16, continue processing and proceed to Clinical Trial. 5. Check Clinical Trial a. If Clinical Trial is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Clinical Trial equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. c. If Clinical Trial equals No, continue processing and proceed to Anesthesia Start Date. 6. Check Anesthesia Start Date a. If the Anesthesia Start Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If the Anesthesia Start Date equals Unable To Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing. c. If Anesthesia Start Date equals a Non Unable To Determine Value, continue processing and

	0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero
	proceed to the Surgery Days calculation. 7. Calculate Surgery Days. Surgery Days, in days, is equal to the Anesthesia Start Date minus the Admission Date. 8. Check Surgery Days a. If the Surgery Days is less than zero, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. b. If the Surgery Days is greater than or equal to zero, continue processing and proceed to Perioperative Death. 9. Check Perioperative Death a. If Perioperative Death is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Perioperative Death equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. c. If Perioperative Death equals No, continue processing and proceed to Anesthesia End Date. 10. Check Anesthesia End Date a. If the Anesthesia End Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If the Anesthesia End Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing. c. If the Anesthesia End Date equals a Non Unable to Determine value, continue processing and proceed to the Days I calculation. 11. Calculate Days I. Days I, in days, is equal to the Discharge Date minus the Anesthesia End Date. 12. Check Days I a. If Days I is less than 2 days, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. b. If Days I is greater than or equal to 2 days, continue processing and proceed to Urinary Catheter. 13. Check Urinary Catheter a. If Urinary Catheter is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Urinary Catheter equals No the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. c. If Urinary Catheter equals Yes, continue processing and proceed to Catheter Removed. 14. Check Catheter Removed a. If Catheter Removed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Catheter Removed equals 1, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing. c. If Catheter Removed equals 2 or 3, continue processing and check Reasons for Continuing Urinary Catheterization. 15. Check Reasons for Continuing Urinary Catheterization a. If Reasons for Continuing Urinary Catheterization is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Reasons for Continuing Urinary Catheterization any equals 1 or 2 and none equals 3 the case will proceed to a Measure Category Assignment of B and will not be in the Measure

	0453 Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero
	Population. Stop processing. c. If Reasons for Continuing Urinary Catheterization equals 3, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing. Available at measure-specific web page URL identified in S.1
Copyright / Disclaimer	5.1 Identified measures: 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: There are no competing measures. 5b.1 If competing, why superior or rationale for additive value: A search on the NQF website did not identify other competing measures. 0686 is the number of long-stay residents who have/had a urinary catheter in the last 7 days (H0100A is checked).

	0458 Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)
Status	Steering Committee Review
Steward	The Society of Thoracic Surgeons
Description	Percentage of thoracic surgical patients aged 18 years and older undergoing at least one pulmonary function test within 12 months prior to a major lung resection (pneumonectomy, lobectomy, or formal segmentectomy)
Type	Process
Data Source	Electronic Clinical Data : Registry STS General Thoracic Surgery Database – Version 2.2 Available at measure-specific web page URL identified in S.1 No data dictionary
Level	Facility, Clinician : Group/Practice
Setting	Hospital/Acute Care Facility
Time Window	Numerator – Performed within 12 months prior to the primary surgical procedure Denominator – 36 months
Numerator Statement	Number of thoracic surgical patients aged 18 years and older undergoing at least one pulmonary function test within 12 months prior to a major anatomic lung resection.
Numerator Details	Number of patients undergoing major anatomic lung resection who undergo at least one pulmonary function test; PFT (STS General Thoracic Surgery Database, Version 2.2, sequence number 760) is marked as "Yes"
Denominator Statement	Number of patients undergoing a major anatomic lung resection
Denominator Details	1. Primary procedure is one of the following CPT codes: Removal of lung, total pneumonectomy; (32440) Removal of lung, sleeve (carinal) pneumonectomy (32442) Removal of lung, total pneumonectomy; extrapleural (32445) Removal of lung, single lobe (lobectomy) (32480)

	0458 Pulmonary Function Tests Before Major Anatomic Lung Resection (Pneumonectomy, Lobectomy, or Formal Segmentectomy)
	Removal of lung, two lobes (bilobectomy) (32482) Removal of lung, single segment (segmentectomy) (32484) Removal of lung, sleeve lobectomy (32486) Removal of lung, completion pneumonectomy (32488) Resection of apical lung tumor (e.g., Pancoast tumor), including chest wall resection, without chest wall reconstruction(s) (32503) Resection of apical lung tumor (e.g., Pancoast tumor), including chest wall resection, with chest wall reconstruction (32504) Thoracoscopy, surgical; with lobectomy (32663) Thoracoscopy with removal of a single lung segment (segmentectomy) (32669) Thoracoscopy with removal of two lobes (bilobectomy) (32670) Thoracoscopy with removal of lung, pneumonectomy (32671) 2. Non-missing data on whether or not PFT was done 3. Status of Operation (Status - STS General Thoracic Surgery Database, Version 2.2, sequence number 1420) is marked as "Elective" 4. Only analyze the first operation of the hospitalization meeting criteria 1-3
Exclusions	Patients who are unable to perform pulmonary function testing (tracheostomy, patient inability to cooperate with pulmonary function test) or those with urgent/emergent need of lung resection (lung abscess, massive hemoptysis, bronchopleuralfistula,etc).
Exclusion details	Pulmonary function tests performed (PFT - STS General Thoracic Surgery Database, Version 2.2, sequence number 760) is marked as "No" and reason PFT not performed (PFT NotPerReas – STS GTSD, Version 2.2, sequence number 770) is marked "tracheostomy or ventilator," "patient unable to perform," or "urgent or emergent status."
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value: N/A

	2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse
Status	Steering Committee Review
Steward	American Urogynecologic Society
Description	Percentage of patients undergoing hysterectomy for the indication of pelvic organ prolapse in

	2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse
	which a concomitant vaginal apical suspension (i.e. uterosacral, iliococygeus, sacrospinous or sacral colpopexy, or enterocele repair) is performed.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Medical Records No data collection instrument provided No data dictionary
Level	Clinician : Group/Practice, Clinician : Individual
Setting	Hospital/Acute Care Facility
Time Window	12 months
Numerator Statement	The number of patients who have a concomitant vaginal apical suspension (i.e.enterocele repair, uterosacral-, iliococygeus-, sacrospinous- or sacral- colpopexy) at the time of hysterectomy for pelvic organ prolapse.
Numerator Details	CPT codes for enterocele repairs bundled with hysterectomy (58263, 58270, 58280, 58292, and 58294) or intraperitoneal colpopexy (57283, i.e. uterosacral suspension), or extraperitoneal colpopexy (57282, i.e. iliococygeus or sacrospinous suspension), or sacral-colpopexy (57425 or 57280, i.e. laparoscopic and abdominal, respectively).
Denominator Statement	Hysterectomy performed for the indication of pelvic organ prolapse
Denominator Details	Hysterectomy (identified by CPT codes) performed for the indication of pelvic organ prolapse (identified by supporting ICD9/ICD10 codes) The codes for ICD9 -> ICD-10 are respectively: 618.01 -> N81.10, Cystocele, midline 618.02 -> N81.12, Cystocele, lateral 618.03 -> N81.0, Urethrocele 618.04 -> N81.6, Rectocele 618.05 -> N81.81, Perineocele 618.2 -> N81.2, Incomplete uterovaginal prolapse 618.3 -> N81.3, Complete uterovaginal prolapse 618.4 -> N81.4, Uterovaginal prolapse, unspecified 618.6 -> N81.5, Vaginal enterocele 618.7 -> N81.89, Old laceration of muscles of pelvic floor 618.81 -> N81.82, incompetence or weakening of pubocervical tissue 618.82 -> N81.83, incompetence or weakening of rectovaginal tissue 618.83 -> N81.84, pelvic muscle wasting CPT codes for hysterectomy are: 57530 Trachelectomy 58150 Total Abdominal Hysterectomy (Corpus and Cervix), w/ or w/out Removal of Tube(s), w/ or w/out Removal of Ovary(s) 58152 Total Abdominal Hysterectomy (Corpus and Cervix), w/ or w/out Removal of Tube(s), w/ or w/out Removal of Ovary(s), with Colpo-Urethrocystopexy (e.g. Marshall-Marchetti-Krantz, Burch) 58180 Supracervical Abdominal Hysterectomy (Subtotal Hysterectomy), w/ or w/out Removal of Tube(s), w/ or w/out Removal of Ovary(s) 58260 Vaginal Hysterectomy, for Uterus 250 G or Less

	2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse
	58262 Vaginal Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s), and/or Ovary(s) 58263 Vaginal Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s), and/or Ovary(s), with Repair of Enterocele 58267 Vaginal Hysterectomy, for Uterus 250 G or Less, with Colpo-Urethrocystopexy (Marshall-Marchetti-Krantz Type, Pereyra Type), w/ or w/out Endoscopic Control 58270 Vaginal Hysterectomy, for Uterus 250 G or Less, with Repair of Enterocele 58275 Vaginal Hysterectomy, with Total or Partial Vaginectomy 58280 Vaginal Hysterectomy, with Total or Partial Vaginectomy, with Repair of Enterocele 58290 Vaginal Hysterectomy, for Uterus Greater than 250 G 58291 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s) 58292 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s), with Repair of Enterocele 58293 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Colpo-Urethrocystopexy (Marshall-Marchetti-Krantz Type, Pereyra Type) 58294 Vaginal Hysterectomy, for Uterus Greater than 250 G, with Repair of Enterocele 58541 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus 250 G or Less 58542 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s) and/or Ovary(s) 58543 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus Greater than 250 G 58544 Laparoscopy, Surgical, Supracervical Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s) 58550 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus 250 G or Less 58552 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s) and/or Ovary(s) 58553 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus Greater than 250 G 58554 Laparoscopy, Surgical, with Vaginal Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s) 58570 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus 250 G or Less 58571 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus 250 G or Less, with Removal of Tube(s) and/or Ovary(s) 58572 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus Greater than 250 G 58573 Laparoscopy, Surgical, with Total Hysterectomy, for Uterus Greater than 250 G, with Removal of Tube(s) and/or Ovary(s)
Exclusions	• Patients with a gynecologic or other pelvic malignancy noted at the time of hysterectomy • Patients undergoing a concurrent obliterative procedure (colpocleisis)
Exclusion details	ICD9 codes: •179 Malignant neoplasm of uterus, part unspecified (ICD-10 C55 same title) •180 Malignant neoplasm of cervix uteri (ICD-10 C53 same title) •182 Malignant neoplasm of body of uterus (ICD-10 C54 same title) •183 Malignant neoplasm of ovary and other uterine adnexa (ICD-10 C56 same title) •184 Malignant neoplasm of other and unspecified female genital organs (ICD-10 C57 same title) •188 Malignant neoplasm of bladder (ICD-10 C67 same title)

	2038 Performing vaginal apical suspension at the time of hysterectomy to address pelvic organ prolapse
	CPT codes for colpocleisis •57120 colpocliesis(le Fort type)
Risk Adjustment	No risk adjustment or risk stratification No, we do not plan to risk adjust the measure.
Stratification	No, we do not plan to stratify the measure results.
Type Score	Rate/proportion better quality = higher score
Algorithm	1. Target population: Patients of a specific surgeon or group undergoing hysterectomy or trachelecomy for diagnosis of prolaspe as defined by CPT/ICD-9/10 codes are identified 2. Exclusions: Patients with diagnoses of cancer (see ICD-9/10 codes above) and with concomitant CPT code for colpocliesis are excluded 3. Denominator: Total number of the target population minus total number of exclusions 4. Numerator: Total number of the patients in the denominator minus the patients from the denominator who have concomiant CPT codes identifying colpopexy or enterocele repair bundled with hysterectomy 5. Numerator is divided by Denominator, and muliplied by 100, to calculate a percentage (rate/proportion) No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value:

	2556 Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity
Status	Steering Committee Review
Steward	American Society for Metabolic and Bariatric Surgery
Description	The single institutional yearly case volume of primary stapled bariatric surgical procedures performed on patients 18 and older who meet the 1991 NIH consensus conference recommendations for Bariatric surgery.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry MBSAQIP Data Registry Platform Hospital Administrative Claims Data No data collection instrument provided No data dictionary
Level	Facility
Setting	Hospital/Acute Care Facility
Time Window	12 Months
Numerator Statement	Total yearly primary stapled bariatric surgical cases reported in patients 18 and older reported in the procedure field of the MBSAQIP bariatric surgical database. -or-

	2556 Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity
	Discharges, age 18 years and older, with ICD-9-CM code for primary Bariatric surgical procedures (excluding gastric restrictive device) accompanied by diagnosis code for Morbid obesity (CPT code 43775, 43644, 43645,43846,43847,43845)(ICD-9 code 278.01) (DRG 619-621)
Numerator Details	MBSAQIP procedure report for a rolling calendar year provides the total yearly procedure count. Gastric Bypass, Vertical Sleeve Gastrectomy (Sleeve Gastrectomy), and Biliopancreatic Diversion with/without Duodenal Switch are included in the numerator -or- Administration billing database of sorted for CPT code 43775(Laparoscopy, Surgical, Gastric restrictive procedure, Longitudinal gastrectomy (e.g. sleeve gastrectomy), 43644 (Laparoscopy, Surgical, gastric restrictive procedure, with gastric bypass and roux-en-Y gastroenterostomy{Roux limb150 cm or less}), 43645 (Laparoscopy, Surgical, gastric restrictive procedure, with gastric bypass and small intestinal reconstruction to limit absorption), 43845 (gastric restrictive procedure with partial gastrectomy, pylorus preserving duodenoileostomy and ileuileostomy (50 to 100cm common channel) to limit absorption{biliopancreatic diversion with duodenal switch}) ,43846 (gastric restrictive procedure, with gastric bypass, for morbid obesity, with short limb(150cm or less) roux-en-y gastroenterostomy, 43846 (Gastric restrictive procedure, with small intestine reconstruction to limit absorption) then subsorted for either ICD-9 code 278.01(morbid obesity) or DRG 619 (OR procedures for obesity with MCC), 620 (OR procedures for obesity with CC, or 621(OR procedures for obesity without CC/MCC).
Denominator Statement	The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes: Inclusion Criteria: Elective, Primary Bariatric Surgery Gastric
Denominator Details	The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes: Inclusion Criteria: Elective, Primary Bariatric Surgery Gastric Bypass CPT 43644, 43645, 43846, 43847 ICD9 Procedure Code Gastric Banding CPT 436770 ICD9 Procedure Code 44.95, 44.68 Sleeve Gastrectomy CPT 43775 ICD9 Procedure Code 43.82, 43.89 Duodenal Switch CPT 43845 ICD9 Procedure Code 43.89, 45.51, 45.91
Exclusions	Occasionally these bariatric surgery procedures may share the same surgical approach as oncologic operations for gastric cancer. Therefore, Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)
Exclusion details	Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)
Risk Adjustment	n?A

	2556 Yearly Surgical Case Volume of Primary Stapled Bariatric Procedures for Morbid Obesity
Stratification	N/A
Type Score	Other (specify): The defined 12 month period better quality = higher score
Algorithm	No calculation necessary.
Copyright / Disclaimer	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value:

	2557 Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures
Status	Steering Committee Review
Steward	American Society for Metabolic and Bariatric Surgery
Description	This measure estimates hospital-level 30-day all-cause (not risk adjusted) readmission rates following elective primary bariatric surgery in patients age 18-65. Specific bariatric surgery procedures included in the measure are laparoscopic Roux-en-Y gastric bypass, sleeve gastrectomy, biliopancreatic diversion with duodenal switch, and laparoscopic adjustable gastric banding. The outcome is defined as readmission for any cause within 30 days of the discharge date for the index hospitalization. Population homogeneity is afforded by the exclusion of open, revisional bariatric surgery and extremes of age.
Type	Outcome
Data Source	Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry Each facility where bariatric surgery is performed will maintain a registry or database for the purposes of quality improvement and outcomes reporting. The instrument used by each facility will vary according the quality improvement or accreditation prog Available in attached appendix at A.1 No data dictionary
Level	Clinician : Group/Practice
Setting	Ambulatory Care : Ambulatory Surgery Center (ASC)
Time Window	30 days after discharge for the index bariatric surgery
Numerator Statement	This outcome measure does not have a traditional numerator and denominator like a core process measure. We are therefore using this field to define the readmission outcome. The outcome for this measure is a readmission to any acute care hospital, for any reason, occurring within 30 days of the discharge date of the index hospitalization. Planned readmissions for any reason within 30 days of an elective primary bariatric procedure would be extremely rare and the numerator therefore includes all-cause readmission and no planned readmission algorithm is needed. Readmission is defined as a hospital admission > 24 hours.
Numerator Details	Primary Bariatric Surgery Laparoscopic Gastric Bypass CPT 43644, 43645, 43846, 43847 ICD9 Procedure Code Laparoscopic Gastric Banding

	2557 Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures
	CPT 436770 ICD9 Procedure Code 44.95, 44.68
Denominator Statement	The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes: Inclusion Criteria: Elective, Primary Bariatric Surgery Gastric
Denominator Details	The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes: Inclusion Criteria: Elective, Primary Bariatric Surgery Gastric Bypass CPT 43644, 43645, 43846, 43847 ICD9 Procedure Code Gastric Banding CPT 436770 ICD9 Procedure Code 44.95, 44.68 Sleeve Gastrectomy CPT 43775 ICD9 Procedure Code 43.82, 43.89 Duodenal Switch CPT 43845 ICD9 Procedure Code 43.89, 45.51, 45.91
Exclusions	Occasionally these bariatric surgery procedures may share the same surgical approach as oncologic operations for gastric cancer. Therefore, Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)
Exclusion details	Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)
Risk Adjustment	N/A
Stratification	No risk-adjustment or stratification is submitted for this measure
Type Score	Continuous variable, e.g. average better quality = lower score
Algorithm	A facility's 30-day readmission rate is calculated by dividing the numerator (30-day readmissions) by the target population (primary bariatric procedures age 18-65) No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0329 : Risk-Adjusted 30-Day All-Cause Readmission Rate 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: The current measure is harmonized as much as possible with existing 30-day readmission measures in terms of the scope, intent, wording, and definitions of numerator and denominator. Bariatric outcomes are currently not risk-adjusted, however, and we therefore excluded extremes of age and revisional cases from our patient population being measured 5b.1 If competing, why superior or rationale for additive value: There are other NQF-endorsed

	2557 Hospital-level, 30-day all-cause readmission rate after elective primary bariatric surgery procedures
	measures for unplanned 30-day hospital readmission and the current proposed measure is additive to the existing measures. There are currently no bariatric surgery-specific measures and the intent of this proposal is to includ

	2559 Bariatric Surgery Hospital Accreditation
Status	Steering Committee Review
Steward	American Society for Metabolic and Bariatric Surgery
Description	Bariatric surgery is an emerging field of surgical specialty. One of the demonstrated drivers for bariatric surgery safety and effectiveness is hospital accreditation for bariatric surgery. As a new field, bariatric surgery outcomes will benefit significantly from hospital accreditation. We will demonstrate the utility of hospital accreditation for bariatric surgery. We are also aware that accreditation for bariatric surgery is not uniform @75-80% and that there are multiple accrediting bodies, providing an opportunity for harmonization. In addition, we will also delineate the favorable impact that accreditation has upon surgical outcomes in distinction to non-accreditation. Accreditation is clearly a process measure as noted by how care is delivered, i.e., care delivery at accredited vs. non-accredited hospitals performing bariatric surgery. The measure is dichotomous: accreditation vs. non-accreditation. Key elements of accreditation include the following: 1. case volume, patient selection, and approved procedures by designation level 2. commitment to quality care standards 3. appropriate equipment and instruments 4. critical care support 5. continuum of care 6. data collection 7. continuous quality improvement
Type	Process
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry Data may be obtained from multiple sources as outlined in S. 6. Available at measure-specific web page URL identified in S.1 No data dictionary MBSAQIP_Data_Collection_Worksheets_Final_-_Jan_2013_-2-.pdf
Level	Population : Community, Population : County or City, Facility, Health Plan, Integrated Delivery System, Population : National, Population : Regional, Population : State
Setting	Ambulatory Care : Ambulatory Surgery Center (ASC), Ambulatory Care : Clinician Office/Clinic, Hospital/Acute Care Facility, Ambulatory Care : Outpatient Rehabilitation
Time Window	The measure is accreditation at hospitals performing bariatric surgery on annual basis.
Numerator Statement	This outcome measure is straight-forward. The denominator is all hospital performing bariatric surgery and the numerator is accredited hospitals performing bariatric surgery.
Numerator Details	The numerator is accredited hospitals performing bariatric surgery. Accreditation can be determined by accessing the MBSAQIP hospital listing, http://www.mbsaqip.info/?page_id=56. Other accrediting bodies may include the following organizations: Aetna

	2559 Bariatric Surgery Hospital Accreditation
	"Institutes of Quality Bariatric Surgery Facilities" http://www.aetna.com/healthcare-professionals/quality-measurement/institutes.html http://www.aetna.com/healthcare-professionals/documents-forms/Bariatric_IOQ_Program_Requirements.pdf Anthem Blue Cross and Blue Shield / Wellpoint "Blue Distinction Centers for Bariatric Surgery" http://www.anthem.com/wps/portal/ahpfooter?content_path=shared/noapplication/f0/s0/t0/pw_ad093285.htm&label=Centers%20for%20Excellence http://www.anthem.com/shared/noapplication/f0/s0/t0/pw_ad093282.pdf?refer=ahpfooter Cigna "3 Star Quality Bariatric Centers" http://www.cigna.com/healthcareprofessionals/resources-for-health-care-professionals/health-and-wellness-programs/certification-for-bariatric-surgery.html http://www.cigna.com/assets/docs/health-care-professionals/3star_designation.pdf United Healthcare / Optum Health https://www.unitedhealthcareonline.com/ccmcontent/ProviderII/UHC/en-US/Assets/ProviderStaticFiles/ProviderStaticFilesPdf/Tools%20and%20Resources/Policies%20and%20Protocols/UnitedHealthcare%20Medicare%20Coverage/Obesity_SH_Ovations.pdf https://www.myoptumhealthcomplexmedical.com/gateway/public/bariatric/bariatric.jsp https://www.myoptumhealthcomplexmedical.com/gateway/cmsrepository/DOCUMENT/1354747298296_121205_BRS_Internal_COE_MAP_md_w_UHC_brand_md.pdf
Denominator Statement	The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes: Inclusion Criteria: Elective, Primary Bariatric Surgery Gastric
Denominator Details	The denominator includes all hospitals performing bariatric surgery. The performance of bariatric surgery may be surmised by any hospital stay involving the following ICD9 procedure codes: Inclusion Criteria: Elective, Primary Bariatric Surgery Gastric Bypass CPT 43644, 43645, 43846, 43847 ICD9 Procedure Code Gastric Banding CPT 436770 ICD9 Procedure Code 44.95, 44.68 Sleeve Gastrectomy CPT 43775 ICD9 Procedure Code 43.82, 43.89 Duodenal Switch CPT 43845 ICD9 Procedure Code 43.89, 45.51, 45.91
Exclusions	Occasionally these bariatric surgery procedures may share the same surgical approach as oncologic operations for gastric cancer. Therefore, Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)

	2559 Bariatric Surgery Hospital Accreditation
Exclusion details	Exclusion Criteria: Cancer Diagnosis (ICD9 DX 150x)
Risk Adjustment	Stratification by risk category/subgroup Multivariate logistic regression analysis was used to investigate if undergoing bariatric surgery at an unaccredited center predicted incidence of complication. The variables controlled for and readily available include bmi, hospital teaching status, volu Provided in response box S.15a
Stratification	The measure status is accreditation is yes/no. Additional stratification variables may include national, regional, or payor accreditation status.
Type Score	Rate/proportion better quality = higher score
Algorithm	1. Accredited Hospitals as detailed in S.6 2. Hospitals Performing Bariatric Surgery as Outlined in S.9 3. Exclusion Criterion as in S.11 4. Measure: Accredited Hospitals Proportion No diagram provided
Copyright / Disclaimer	5.1 Identified measures: 0113 : Participation in a Systematic Database for Cardiac Surgery 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: While MBSAQIP is the dominant accrediting body, there are regional accrediting bodies as well as private payor accrediting organizations. 5b.1 If competing, why superior or rationale for additive value: N/A

Appendix G: Related and Competing Measures

Comparison of NQF #0119 and NQF #2558

	0119 Risk-Adjusted Operative Mortality for CABG	2558 Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery
Steward	The Society of Thoracic Surgeons	Centers for Medicare & Medicaid Services
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	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.
Type	Outcome	Outcome
Data Source	Electronic Clinical Data: Registry STS Adult Cardiac Surgery Database – Version 2.73; STS Adult Cardiac Surgery Database Version 2.8 will go live on July 1, 2014. Available at measure-specific web page URL identified in S.1 Attachment S.15._Isolated_CABG_Risk_Model_Specifications-635307506255634552.doc	Administrative claims Administrative Claims: The Medicare data sources used to create the measure were: 1) Medicare Part A inpatient and Outpatient and Part B outpatient claims from the Standard Analytic File, including inpatient and outpatient claims for the 12 months prior to an index admission. This dataset was used to identify the cohort (Part A inpatient) and to identify comorbidities (Part A inpatient and outpatient and Part B outpatient). 2) Medicare Enrollment Database (EDB): This database contains Medicare beneficiary demographic, benefit/coverage, and vital status information. This dataset was used to obtain information on several inclusions/exclusions indicators such as Medicare status on admission, and to ascertain the outcome (death). The all-payer data source used to test the measure in patients 18 years and over was: 3) 2006 California Patient Discharge Data (PDD), a large, linked database of approximately 3 million adult discharges from more than 450 non-Federal acute care hospitals. Records are linked by a unique patient identification number, allowing determination of patient

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		history from previous hospitalizations and evaluation of both readmission and mortality rates (via linking with California vital statistics records). The data source used to validate the risk adjustment model was: 4) New York Cardiac Surgery Reporting System (CSRS) Registry data: a large CABG registry that has been used to collect and publicly reported outcomes since 1992. The data source used to validate the cohort definition was: 5) The Society of Thoracic Surgeons (STS) national STS Adult Cardiac Surgery Database No data collection instrument provided Attachment Yale-CORE_CABG_Mortality_Measure_Excel_Attachment_3-26-14_Final.xlsx
Level	Facility, Clinician : Group/Practice	Facility
Setting	Hospital/Acute Care Facility	Hospital/Acute Care Facility
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	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.
Numerator Details	Number of isolated CABG procedures with an operative mortality; Number of isolated CABG procedures in which Mortality [Mortalty (STS Adult Cardiac Surgery Database Version 2.73)] and Mortality Operative Death (MtOpD) are marked “yes.” Operative mortality is further verified by the following variables: Mortality Status at 30 days (Mt30Stat), Mortality Date (MtDate), Mortality Discharge Status (MtDCStat)	(Note: This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year); thus, we are using this field to define the outcome and to which hospital the outcome is attributed when there are multiple hospitalizations within a single episode of care.) This is an all-cause mortality measure and therefore any death within 30 days of the index procedure date from the index hospitalization is included in the measure outcome. Deaths are

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		identified in the Medicare Enrollment Database. Outcome Attribution: Attribution of the outcome in situations where a patient has multiple contiguous admissions, at least one of which involves an index CABG procedure (i.e., the patient is either transferred into the hospital that performs the index CABG or is transferred out to another hospital following the index CABG) is as follows: - If a patient undergoes a CABG procedure in the first hospital and is then transferred to a second hospital where there is no CABG procedure, the mortality outcome is attributed to the first hospital performing the index CABG procedure and the 30-day window starts with the date of index CABG procedure. Rationale: A transfer following CABG is most likely due to a complication of the index procedure and that care provided by the hospital performing the CABG procedure likely dominates mortality risk even among transferred patients. - If a patient is admitted to a first hospital but does not receive a CABG procedure there and is then transferred to a second hospital where a CABG is performed, the mortality outcome is attributed to the second hospital performing the index CABG procedure and the 30-day window starts with the date of index CABG procedure. Rationale: Care provided by the hospital performing the CABG

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		procedure likely dominates mortality risk. -If a patient undergoes a CABG procedure in the first hospital and is transferred to a second hospital where another CABG procedure is performed, the mortality outcome is attributed to the first hospital performing the index (first) CABG procedure and the 30-day window starts with the date of index CABG procedure. Rationale: A transfer following CABG is most likely due to a complication of the index procedure, and care provided by the hospital performing the index CABG procedure likely dominates mortality risk even among transferred patients.
Denominator Statement	All patients undergoing isolated CABG	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 qualifying isolated CABG procedure (see codes below) and with a complete claims history for the 12 months prior to admission. For simplicity of implementation and as testing demonstrated closely correlated patient-level and hospital-level results using models with or without age interaction terms, the only recommended modification to the measure for application to all-payer data sets is replacement of the "Age-65" variable with a fully continuous age variable. If a patient has more than one qualifying isolated CABG admission in a year, one hospitalization is randomly selected for inclusion in the measure.
Denominator Details	Number of isolated CABG procedures. The SQL code used to create the function to identify cardiac procedures is provided in the appendix.	(Note: This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year). We therefore use this field to define

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		the measure cohort.) The index cohort includes admissions for patients aged 18 years or older who received a qualifying "isolated" CABG procedure (CABG procedure without other concurrent major cardiac procedure such as valve replacement). The measure was developed in a cohort of patients 65 years and older who were enrolled in Medicare Fee-for-Service (FFS) and admitted to non-federal hospitals. To be included in the Medicare FFS cohort, patients had to have a qualifying isolated CABG procedure AND had to be continuously enrolled in Medicare FFS one year prior to the first day of the index hospitalization and through 30 days post-procedure. This cohort is defined using the ICD-9 Clinical Modification (ICD-9-CM) procedure codes identified in Medicare Part A Inpatient claims data. An ICD-9 to ICD-10 crosswalk is attached in field S.2b. (Data Dictionary or Code Table). In order to create a clinically coherent population for risk adjustment and in accordance with existing NQF-approved CABG measures and clinical expert opinion, the measure is intended to capture isolated CABG patients (i.e., patients undergoing CABG procedures without concomitant valve or other major cardiac or vascular procedures see exclusion). ICD-9-CM procedure codes that indicate a patient has undergone a NON-isolated CABG procedure (CABG surgeries that occur concomitantly with procedures that elevate patients' mortality risk) and thus does not meet criteria for inclusion in the measure cohort are listed in the attached Excel file (see tab S.9). ICD-9-CM codes that define the cohort: 36.1x - Aortocoronary bypass for heart revascularization, not otherwise specified 36.11 - (Aorto) coronary bypass of one coronary artery 36.12 - (Aorto) coronary bypass of two coronary arteries 36.13 - (Aorto) coronary bypass of three coronary arteries 36.14 - (Aorto) coronary bypass of four or more coronary arteries 36.15 - Single internal mammary- coronary artery bypass 36.16 - Double internal mammary- coronary artery bypass

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		36.17 - Abdominal- coronary artery bypass 36.19 - Other bypass anastomosis for heart revascularization
Exclusions	N/A	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.
Exclusion Details	N/A	For all cohorts, hospitalizations for: 1) Patients with inconsistent or unknown vital status or other unreliable data are identified if any of the following conditions are met 1) the patient's age is greater than 115 years: 2) if the discharge date for a hospitalization is before the admission date; 3) if the patient has a sex other than 'male' or 'female'. 2) Patients who leave hospital against medical advice (AMA) are identified using the discharge disposition indicator in the Standard Analytic File (SAF). 3) Subsequent qualifying CABG procedures during the measurement period are identified by the ICD-9 codes defining CABG listed in denominator details.

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Risk Adjustment	Statistical risk model The details of the risk adjustment model development were published in 2009. The list of candidate risk predictors were selected by a surgeon panel based on prior research and clinical expertise. Initial models were selected using a backwards approach with a significance criterion of 0.001 for removal. Three variables were preselected and forced into the models. These included all of the continuous variables (age, BSA, date of surgery [in 6-month intervals], creatinine, ejection fraction), plus sex and dialysis. In addition, atrial fibrillation was included a priori in the model for permanent stroke. Shahian DM, O'Brien SM, Filardo G, Ferraris VA, et al. The Society of Thoracic Surgeons 2008 cardiac surgery risk models: part 1--coronary artery bypass grafting surgery. Ann Thorac Surg. 2009 Jul; 88(1 Suppl):S2-22. The definitions of all the variables in the final 2008 CABG model are provided below. (Note not all were included in the final model for this measure.) Variable Definition _____ Intercept = 1 for all patients Atrial fibrillation = 1 if patient has history of preoperative atrial fibrillation, = 0 otherwise Age = Patient age in years Age function 1 = max (age–50, 0) Age function 2 = max (age–60, 0) Age by reop function = Age function 1 if surgery is a reoperation, = 0 otherwise Age by status function = Age function 1 if status is emergent or salvage, = 0 otherwise BSA function 1 = max (1.4, min [2.6, BSA]) – 1.8 BSA function 2 = (BSA function 1)2 CHF but not NYHA IV = 1 if patient has CHF and is not NYHA	Statistical risk model Our approach to risk adjustment is tailored to and appropriate for a publicly reported outcome measure, as articulated in the American Heart Association (AHA) Scientific Statement, "Standards for Statistical Models Used for Public Reporting of Health Outcomes" (Krumholz et al., 2006). The measure calculates mortality rates using a hierarchical logistic regression model to account for the clustering of patients within hospitals while risk-adjusting for differences in patient case-mix. We modeled the log-odds of mortality within 30 days from the procedure date of an index CABG admission as a function of patient demographic and clinical characteristics, and a random hospital-specific intercept. This strategy accounts for within-hospital correlation of the observed outcomes, and models the assumption that underlying differences in quality among the health care groups being evaluated lead to systematic differences in outcomes. Methodology for calculation of risk-standardized rates is noted below in the calculation algorithm section (S.18). Variables are patient-level risk-adjustors that are expected to be predictive of mortality, based on empirical analysis, prior literature, and clinical judgment, including age and indicators of comorbidity and disease severity. For each patient, covariates are obtained from Medicare claims extending 12 months prior to and including the index admission. The model adjusts for case differences based on the clinical status of the patient at the time of admission. We use condition categories (CCs), which are clinically meaningful groupings of more than 15,000 ICD-9-CM diagnosis codes. A map showing the assignment of ICD-9 codes to CCs can be found in the attached Excel file (tab 2b4.4). We do not risk-adjust for CCs that are possible adverse events of care and that are only recorded in the index admission. In addition, only comorbidities that convey information about the patient at that time or in the 12-months prior, and not complications that arise during the course of the hospitalization are included in the risk adjustment. The risk-adjustment model includes 24 variables:

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	class IV, = 0 otherwise CHF and NYHA IV = 1 if patient has CHF and is NYHA class IV, = 0 otherwise CLD mild= 1 if patient has mild chronic lung disease, = 0 otherwise CLD moderate = 1 if patient has moderate chronic lung disease, = 0 otherwise CLD severe = 1 if patient has severe chronic lung disease, = 0 otherwise Creatinine function 1 = max (0.5, min [creatinine, 5.0]) if patient is not on dialysis, = 0 otherwise Creatinine function 2 = max ([creatinine function 1] – 1.0, 0) Creatinine function 3 = max ([creatinine function 1] – 1.5, 0) CVD without prior CVA = 1 if patient has history of CVD and no prior CVA, = 0 otherwise CVD and prior CVA = 1 if patient has history of CVD and a prior CVA, = 0 otherwise Diabetes, noninsulin = 1 if patient has diabetes not treated with insulin, = 0 otherwise Diabetes, insulin = 1 if patient has diabetes treated with insulin, = 0 otherwise Ejection fraction function = max (50 – ejection fraction, 0) Female = 1 if patient is female, = 0 otherwise Female by BSA function 1 = BSA function 1 if female, = 0 otherwise Female by BSA function 2 = BSA function 2 if female, = 0 otherwise Hypertension = 1 if patient has hypertension, = 0 otherwise IABP or inotropes= 1 if patient requires IABP or inotropes preoperatively, = 0 otherwise Immunosuppressive treatment = 1 if patient given immunosuppressive therapy within 30 days, = 0 otherwise Insufficiency, aortic = 1 if patient has at least moderate aortic insufficiency, = 0 otherwise Insufficiency, mitral = 1 if patient has at least moderate mitral insufficiency, = 0 otherwise	Demographic: Age (per year >65) Gender (Male) Comorbidities: History of Prior CABG or Valve Surgery Cardiogenic Shock Cancer Protein-calorie Malnutrition Obesity/Disorders of Thyroid, Cholesterol, Lipids Liver and Biliary Disease Other Gastrointestinal Disorders Dementia or Other Specified Brain Disorders Hemiplegia, Paraplegia, Paralysis, Functional Disability Congestive Heart Failure Acute Myocardial Infarction Unstable Angina and Other Acute Ischemic Heart Disease Angina Pectoris/Old Myocardial Infarction Coronary Atherosclerosis/Other Chronic Ischemic Heart Disease Hypertension Stroke Vascular Disease and Complications or Circulatory Disease Chronic Obstructive Pulmonary Disease Pneumonia End-stage Renal Disease or Dialysis Renal Failure Decubitus Ulcer or Chronic Skin Ulcer Risk model coefficients to estimate each patient's probability for the outcome: SAS procedure PROC GLIMMIX fits the statistical model to calculate

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	Insufficiency, tricuspid = 1 if patient has at least moderate tricuspid insufficiency, = 0 otherwise Left main disease = 1 if patient has left main disease, = 0 otherwise MI 1 to 21 days = 1 if history of MI 1 to 21 days prior to surgery, = 0 otherwise MI > 6 and < 24 hours = 1 if history of MI >6 and <24 hours prior to surgery, = 0 otherwise MI 6 hours = 1 if history of MI 6 hours prior to surgery, = 0 otherwise No. diseased vessel function = 2 if triple-vessel disease, = 1 if double-vessel disease, = 0 otherwise PCI 6 hours = 1 if patient had PCI 6 hours prior to surgery, = 0 otherwise Peripheral vascular disease = 1 if patient has peripheral vascular disease, = 0 otherwise Race black = 1 if patient is black, = 0 otherwise Race Hispanic = 1 if patient is nonblack Hispanic, = 0 otherwise Race Asian = 1 if patient is nonblack, non-Hispanic, and is Asian, = 0 otherwise Reop, 1 previous operation = 1 if patient has had exactly 1 previous CV surgery, = 0 otherwise Reop, 2 previous operations = 1 if patient has had 2 or more previous CV surgeries, = 0 otherwise Shock = 1 if patient was in shock at time of procedure, = 0 otherwise Status urgent = 1 if status is urgent, = 0 otherwise Status emergent = 1 if status is emergent (but not resuscitation), = 0 otherwise Status salvage = 1 if status is salvage (or emergent plus resuscitation), = 0 otherwise Stenosis aortic = 1 if patient has aortic stenosis, = 0 otherwise Unstable angina = 1 if patient has unstable angina, no MI within 7	the risk-adjusted coefficients and hospital-specific effects as listed in the attached Excel file (tab S.15). For random effect, the between-hospital variance is 0.19 (standard error 0.02) for the model using the January 2009 – September 2011 dataset. Reference: Krumholz HM, Brindis RG, Brush JE, et al. 2006. Standards for Statistical Models Used for Public Reporting of Health Outcomes: An American Heart Association Scientific Statement From the Quality of Care and Outcomes Research Interdisciplinary Writing Group: Cosponsored by the Council on Epidemiology and Prevention and the Stroke Council Endorsed by the American College of Cardiology Foundation. Circulation 113: 456-462. Available in attached Excel or csv file at S.2b

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	days of surgery, = 0 otherwise Available in attached Excel or csv file at S.2b	
Stratification	N/A	Results of this measure will not be stratified.
Type Score	Rate/proportion better quality = lower score	Rate/proportion better quality = lower score
Algorithm	Please refer to numerator and denominator sections for detailed information. No diagram provided	We calculate hospital-specific risk-standardized mortality rates. These rates are obtained as the ratio of predicted to expected deaths, multiplied by the national unadjusted rate. The "predicted" number of deaths (the numerator) is calculated using the coefficients estimated by regressing the risk factors and the hospital-specific intercept on the risk of mortality. The estimated hospital-specific intercept is added to the sum of the estimated regression coefficients multiplied by the patient characteristics. The results are then transformed and summed over all patients attributed to a hospital to get a predicted value. The "expected" number of deaths (the denominator) is obtained in the same manner, but a common intercept using all hospitals in our sample is added in place of the hospital-specific intercept. The results are then transformed and summed over all patients in the hospital to get an expected value. To assess hospital performance for each reporting period, we re-estimate the model coefficients using the years of data in that period. Please see the calculation algorithm attachment for more details. Available in attached appendix at A.1
Submission items	5.1 Identified measures: 0114 : Risk-Adjusted Postoperative Renal Failure 0115 : Risk-Adjusted Surgical Re-exploration 0116 : Anti-Platelet Medication at Discharge 0117 : Beta Blockade at Discharge 0118 : Anti-Lipid Treatment Discharge 0120 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) 0121 : Risk-Adjusted Operative Mortality for Mitral Valve (MV) Replacement	5.1 Identified measures: 0114 : Risk-Adjusted Postoperative Renal Failure 0115 : Risk-Adjusted Surgical Re-exploration 0119 : Risk-Adjusted Operative Mortality for CABG 0122 : Risk-Adjusted Operative Mortality MV Replacement + CABG Surgery 0123 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) + CABG Surgery 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation)

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	0122 : Risk-Adjusted Operative Mortality MV Replacement + CABG Surgery 0123 : Risk-Adjusted Operative Mortality for Aortic Valve Replacement (AVR) + CABG Surgery 0127 : Preoperative Beta Blockade 0129 : Risk-Adjusted Postoperative Prolonged Intubation (Ventilation) 0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0134 : Use of Internal Mammary Artery (IMA) in Coronary Artery Bypass Graft (CABG) 1501 : Risk-Adjusted Operative Mortality for Mitral Valve (MV) Repair 1502 : Risk-Adjusted Operative Mortality for MV Repair + CABG Surgery 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value: N/A	0130 : Risk-Adjusted Deep Sternal Wound Infection Rate 0131 : Risk-Adjusted Stroke/Cerebrovascular Accident 0229: Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following heart failure (HF) hospitalization for patients 18 and older. 0230: Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following acute myocardial infarction (AMI) hospitalization for patients 18 and older. 0468 : Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following pneumonia hospitalization 0535 : 30-day all-cause risk-standardized mortality rate following percutaneous coronary intervention (PCI) for patients without ST segment elevation myocardial infarction (STEMI) and without cardiogenic shock 0536 : 30-day all-cause risk-standardized mortality rate following Percutaneous Coronary Intervention (PCI) for patients with ST segment elevation myocardial infarction (STEMI) or cardiogenic shock 1502 : Risk-Adjusted Operative Mortality for MV Repair + CABG Surgery 1893 : Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) following Chronic Obstructive Pulmonary Disease (COPD) Hospitalization 5a.1 Are specs completely harmonized? Yes 5a.2 If not completely harmonized, identify difference, rationale, impact: The target population for the proposed CABG mortality measure and all of the above measures that have different measure focus but same target population is isolated CABG patients. The clinical cohort exclusions are harmonized to the extent possible given the differences between clinical and administrative data. The exclusions

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		are nearly identical to the STS measures' cohort exclusions with the exception of epicardial MAZE procedures; STS excludes these procedures from the registry-based CABG mortality measure cohort because the version of registry data used for measure development did not allow for differentiation of epicardial and open maze procedures. The measures with similar measure focus but different target population differ from the proposed CABG mortality measure both in the period they observe the patient for the outcome and in their target populations. The STS measures listed assess both deaths occurring during the CABG hospitalization (in-hospital death, even if after 30 days) and deaths occurring within 30 days of procedure date. The proposed CABG mortality measure counts death within 30 days post-procedure, using a standard period of follow-up for all patients consistent with other publicly reported measures. The standard period is necessary so the outcome for each patient is measured consistently. Without a standard measurement period, variation in length of stay could have an undue influence on mortality rates.The proposed CABG mortality measure is harmonized with the above measures to the extent possible given the different data sources used for development and reporting. We did not include in our list of related measures any non-outcome (e.g., process) measures with the same target population as our measure. Our measure cohort was heavily vetted by clinical experts, a technical expert panel, and a public comment period. In addition, the related claims-based CABG readmission measure, which utilizes the same definition of isolated CABG as the mortality measure, was validated using STS clinical registry data. Because this is an outcome measure, clinical coherence of the cohort takes precedence over alignment with related non-outcome measures. Furthermore, non-outcome measures are limited due to broader patient exclusions. This is because they typically only include a specific subset of patients who are eligible for that measure (for example, patients who receive a specific medication or undergo a specific procedure). 5b.1 If competing, why superior or rationale for additive value: The NQF-endorsed STS measure that has the same target population

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		and similar measure focus as the proposed CABG mortality measure is the Risk-adjusted operative mortality for CABG (NQF #0119). The measure steward for the registry-based mortality measure for CABG is STS. In developing the measure, we sought to harmonize with the STS measure to the greatest extent feasible given competing measure design objectives and differences in the data source. The potential sources of discrepancy are target patient population, age, isolated CABG, period of observation, and included hospitals. The STS measure also assesses both deaths occurring during CABG hospitalization (in-hospital death, even if after 30 days) and deaths occurring within 30 days of procedure date. As indicated above, the proposed measure uses a standard follow-up period of 30 days of procedure date in order to measure each patient consistently. The proposed claims-based measure has been tested and is appropriate for use in all-payer data for patients 18 years and over. Finally, the STS cardiac surgery registry currently enrolls most, but not all, patients receiving CABG surgeries in the U.S. The proposed CABG mortality measure will capture all qualifying Medicare FFS patients undergoing CABG regardless of whether their hospital or surgeon participates in the STS registry.