NATIONAL QUALITY FORUM

CONFERENCE CALLS OF THE SURGERY ENDORSEMENT MAINTENANCE 2010 STEERING COMMITTEE

August 3, 2011

Committee Members Present: David Torchiana, MD (co-chair), Massachusetts General Physicians Organization; Nasim Afsar-manesh, MD, UCLA Medical Center; Curtis Collins, PharmD, MS, BCPS AQ-ID, University of Michigan Health System; Peter Dillon, MD, MSc, Penn State Hershey Medical Center; Richard Dutton, MD, MBA, Anesthesia Quality Institute; Paula Graling, DNP, RN, CNS, CNOR, INOVA Fairfax Hospital; Vivienne Halpern, MD, FACS, Carl T Hayden VA Medical Center; Dennis Rivenburgh, MS, ATC, PA-C, St. Anthony's Primary Care; Christopher Saigal, MD, MPH, FACS, UCLA; Allan Siperstein, MD, Cleveland Clinic; Carol Wilhoit, MD, MS, Blue Cross Blue Shield of Illinois.

NQF Staff Present: Heidi Bossley, MSN, MBA, Vice President for Performance Measures; Alexis Forman, MPH, Senior Project Manager; Melinda Murphy, RN, MS, NE-BC, Senior Director; Jessica Weber, Project Analyst, MPH.

Measure Developers Present: Lindsey Adams, Society for Vascular Surgeons; John Bott, Agency for Healthcare Research and Quality; Sheryl Davies, Stanford University; Jane Han, Society of Thoracic Surgeons; Flora Lum, American Academy of Ophthalmology; Kathleen Hewitt, American College of Cardiology, Donna McDonald, Society of Thoracic Surgeons; Patrick Romano, University of California-Davis; Donna Slosburg, ASC Quality Collaboration; Susan White, ASC Quality Collaboration; Kim Wood, Surgical Care Affiliates.

August 4, 2011

Committee Members Present: Arden Morris, MD, MPH, FACS (co-chair), University of Michigan; Nasim Afsar-manesh, MD, UCLA Medical Center; Robert Cima, MD, MA, FACS, FASCRS, Mayo Clinic; Dennis Rivenburgh, MS, ATC, PA-C, St. Anthony's Primary Care; Renae Stafford, MD, MPH, FACS, University of North Carolina-Chapel Hill; Carol Wilhoit, MD, MS, Blue Cross Blue Shield of Illinois.

NQF Staff Present: Heidi Bossley, MSN, MBA, Vice President for Performance Measures; Alexis Forman, MPH, Senior Project Manager; Melinda Murphy, RN, MS, NE-BC, Senior Director; Jessica Weber, Project Analyst, MPH.

Measure Developers Present: John Bott, Agency for Healthcare Research and Quality; Sheryl Davies, Stanford University; Jeffrey Geppert, Agency for Healthcare Research and Quality; Jane Han, The Society of Thoracic Surgeons; Kelsey Kurth, American Academy of Ophthalmology; Flora Lum, American Academy of Ophthalmology; Bijan Niknam, Children's Hospital of Philadelphia; Patrick Romano, University of California-Davis; Jeffrey Silber, Children's Hospital of Philadelphia; Kim Wood, Surgical Care Affiliates.

The audio recording from the meeting can be found here.

WELCOME AND INTRODUCTIONS

Ms. Forman welcomed the Steering Committee and provided a brief overview of the agenda. The purpose of this call was to:

- continue reviewing the measure developer response to the Committee's suggested modifications for Phase II measures in preparation for final recommendations;

- identify and evaluate competing measures to select the best measure for endorsement recommendation; and
- identify and evaluate related measures to determine if harmonization is needed.

The measure developers/stewards were available on the call to respond to questions from the Committee as needed.

MEASURE EVALUATION SUMMARY

The following summary includes the Committee's original evaluation of the measures and any follow-up since the May 4-5 in-person meeting.

The Steering Committee further considered the following measures:

- **0515**: Ambulatory surgery patients with appropriate method of hair removal
- **0367**: Post operative wound dehiscence (PDI 11) (risk adjusted)
- **0368**: Post operative wound dehiscence (PSI 14) (risk adjusted)

At its May meeting, the Committee determined that measure 0515 met the NQF criteria and should be recommended for endorsement and placed in reserve status based on the high rate of performance. Subsequently, the developer of measure 0515 provided a written request asking the Committee to reconsider its recommendation.

At the May 4-5 meeting, the Committee expressed concerns about the evidence cited in the measure submission forms of measures 0367 and 0368. At that meeting, the Committee's vote was that the measures did not pass the Importance to Measure and Report criterion. Following the meeting, the developer provided additional clarifying information and requested that the Committee reconsider its recommendation.

The Steering Committee reviewed the measure developers' responses to questions and proposed conditions for the following measures:

- **0125**: Timing of antibiotic prophylaxis for cardiac surgery patients
- **0264**: Prophylactic intravenous (IV) antibiotic timing
- **0357**: Abdominal aortic aneurysm volume (AAA) (IQI 4)
- **0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11) (risk adjusted)

Measures and Evaluations

The summary below displays follow-up items from 7 measures considered at the May 4-5 in-person meeting, including actions taken by the Steering Committee on conditional recommendations or preliminary review. (See the summary from the May 4-5 meeting for the original evaluation of the measures.)

Information related to the measures that were discussed on this call is highlighted.

LEGEND: Y= Yes; N = No; A = Abstain; C = Completely; P = Partially; M = Minimally; N = Not at all

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Cardiac and Vascular
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0357 Abdominal aortic aneurysm (AAA) repair volume (IQI 4)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Count of adult hospital discharges in a one year time period with a procedure code of AAA repair. Numerator Statement: Discharges, age 18 years and older, with an abdominal aortic aneurysm (AAA) repair procedure and a primary or secondary diagnosis of AAA. Denominator Statement: Not applicable. Exclusions: Not applicable. Adjustment/Stratification: no risk adjustment necessary/ The stratification of the denominator for open vs. endovascular and ruptured vs. unruptured involve the following codes in the denominator specification: AAA Repair (ICD-9-CM Procedure Codes: OPEN ; '3834´ = ´1´ /* AORTA RESECTION & ANAST * ´3844´ = ´1´ /* RESECT ABDM AORTA W REPL */ ´3864´ = ´1´ /* EXCISION OF AORTA */ /* ENDOVASCULAR */; ´3971´ = ´1´ /* ENDO IMPL GRFT ABD AORTA */ /* Include Only: AAA */ /* ICD-9-CM Diagnosis Codes: */ /* RUPTURED */; ´4413´ = ´1´ /* RUPT ABD AORTIC ANEURYSM */ /* UNRUPTURED */; ´4414´ = ´1´ /* ABDOM AORTIC ANEURYSM */ Level of Analysis: Facility/ Agency Type of Measure: Structure/management Data Source: Electronic administrative data/ claims Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850
Steering Committee Recommendation for Endorsement: Conditional *No did not pass Importance to Measure and Report Y-10; N-11*. Pending final recommendation. Rationale: The measure initially did not pass the importance criterion; however, the Committee asked for additional information. With that information, the Committee reconsidered the measure. Final action is pending receipt and consideration of a measure that combines 0357 and 0359.
If applicable, Conditions/Questions for Developer: 1. Overarching Comment: The Steering Committee vote regarding the NQF evaluation criterion of "Importance" was split with 10 voting yes and 11 voting no and a number of members noted the measure should only be reported with the related mortality measure. The developer will want to review the measure in its entirety in this light and provide whatever additional information/specification including value as a paired measure with mortality that it believes appropriate. Should specifications change, it is important to provide information regarding testing with the changes. 2. 2a. 11 Stratification Details/Variables: Measure should stratify the measure by endovascular and open repairs. Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization. As discussed the developer should meet with SVS to harmonize or blend measures concerning AAA

0357 Abdominal aortic aneurysm (AAA) repair volume (IQI 4)
Developer Response: 1. AHRQ agrees to stratify the measure by endovascular and open repairs, but notes that additional methodological development will be required to ensure the measures have adequate reliability. 2. AHRQ noted at the meeting that the volume and mortality measures are to be reported as paired measures though some users may not have the information to report both. Steering Committee Follow-Up: The Steering Committee was concerned about volume being reported as a singular measure. 1. The Steering Committee requested information regarding needed methodological changes for the measure based on the endovascular and open repair stratification and will further consider the measure with that information. AHRQ will also further clarify the risk adjustment model. 2. The Steering Committee was concerned that the developer had not addressed creating a composite of the volume (0357) and morbidity measure (0359). Members noted that the developer had agreed to stratify the measure by endovascular and open repairs but that the measure did have reliability testing for the requested change. The Steering Committee asked for additional information about how the developer would redevelop their risk stratification model. On the August 3 conference call, the developer discussed the measure together with Measure 0359 and highlighted preliminary results of revising the measure with four strata. The developer is continuing to explore how the outcomes information can be put back together with volume for the requested composite/combined measures. The measure will move forward as a composite rather than as two measures.
1. Importance to Measure and Report: Y-10; N-11 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The measure would provide key information to the public about AAA mortality, but does not provide separate information on EVARs and open repairs. The vote is reflective of the debate related to the value and implications of separately reporting open and endovascular repairs. AHRQ representatives indicated that the stratification is a component of the current software; however the Committee would like to see this specifically reflected in the specifications of the measure. AHRQ representatives indicated that a separate risk adjustment model could be developed for open and endovascular procedures with both ruptured and unruptured aneurysms. The majority of AAA repairs are done endovascularly and open repairs have become more complicated.
2. Scientific Acceptability of Measure Properties: *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale:
3. Usability: *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale:
4. Feasibility: *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale:

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of adult hosptial discharges in a one-year time period with a procedure code of AAA repair and a diagnosis of AAA with an in-hospital death. Numerator Statement: Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator. Denominator Statement: Discharges, age 18 years and older, with ICD-9-CM AAA repair code procedure and a diagnosis of AAA in any field. The denominator may be stratified by open vs. endovascular procedures, and ruptured vs. un-ruptured AAA. Exclusions: Exclude cases: • missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) • transferring to another short-term hospital (DISP=2) • MDC 14 (pregnancy, childbirth, and puerperium) Adjustment/Stratification: risk adjustment method widely or commercially available The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, age in years (in 5-year age groups), All Patient Refined-Diagnosis Related Group (APR-DRG) and APR-DRG risk-of-mortality subclass. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)

by the reference population rate.
Risk adjustment factors: sex
age 18-24; age 25-29; age 30-34; age 35-39; age 40-44; age 45-49; age 50-54; age 55-59; age 60-64; age 65-69; age 70-74; age 75-79; age 80-84; age 85+
ADRG 1731 (other vascular procedures-minor)
ADRG 1732 (other vascular procedures-moderate)
ADRG 1733 (other vascular procedures-major)
ADRG 1734 (other vascular procedures-extreme)
ADRG 1691 (major thoracic and abdominal vascular procedures-minor)
ADRG 1692 (major thoracic and abdominal vascular procedures-moderate)
ADRG 1693 (major thoracic and abdominal vascular procedures-major)
ADRG 1694 (major thoracic and abdominal vascular procedures-extreme
MDC 5 (Cardiovascular)
Transfer-in status
Gender, age (5-year age groups), race/ ethnicity, primary payer, custom
The stratification of the denominator for open vs. endovascular and ruptured vs. unruptured involves the following codes in the denominator specification:
AAA Repair
ICD-9-CM Procedure Codes:
OPEN
´3834´ = ´1´ /* AORTA RESECTION & ANAST */
´3844´ = ´1´ /* RESECT ABDM AORTA W REPL */
´3864´ = ´1´ /* EXCISION OF AORTA */
ENDOVASCULAR
´3971´ = ´1´ /* ENDO IMPL GRFT ABD AORTA */
AAA
ICD-9-CM Diagnosis Codes:
RUPTURED
´4413´ = ´1´ /* RUPT ABD AORTIC ANEURYSM */
UNRUPTURED
´4414´ = ´1´ /* ABDOM AORTIC ANEURYSM */
Level of Analysis: Facility/ Agency
Type of Measure: Outcome
Data Source: Electronic administrative data/ claims
Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

Steering Committee Recommendation for Endorsement: Pending final recommendation.
Rationale: The measure initially did not pass the importance criterion; however, the Steering Committee engaged in extensive discussion of the volume and mortality measures as noted in review of 0357 above. The Committee asked for additional information and with that information, reconsidered the measure. Final action is pending receipt and consideration of a measure that combines 0357 and 0359.

If applicable, Conditions/Questions for Developer:

1. 2a.11 Stratification Details/Variables: a) Stratify the measure by endovascular and open repairs as well as emergency vs. elective repair; b) specify the risk stratification model used; 3) identify settings where the model has been validated in addition to the training data set in which it was developed or provide other supporting data as to its validity.
2. 2b.3 Testing Results: Please provide information about signal to noise ratio.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization. As discussed, the developer should meet with SVS to harmonize or blend measures concerning AAA.

Developer Response:

1. a) As noted above, AHRQ agrees to stratify the measure by endovascular and open repairs; in addition, AHRQ agrees to stratify by ruptured vs. un-ruptured aneurysm (which is what we assume you mean by emergency vs. elective repair); but AHRQ again notes that additional methodological development will be required to ensure the measures have adequate reliability; b) the risk stratification model is specified below; c) the model has been validated on the State Inpatient Databases (SID), which consists of hospital discharge data from 40 states (constituting about 90% of hospital discharges in the U.S) for the years 2001-2008
2. The signal to noise ratio is the ratio of the between hospital variance (signal) to the within hospital variance (noise). The formula is signal / (signal + noise). The ratio itself is only a diagnostic for the degree of variance in the risk-adjusted rate systematically associated with the provider. Therefore, what matters is the magnitude of the variance in the "smoothed" rate (that is, the variance in the risk-adjusted rate after the application of the univariate shrinkage estimator based on the signal

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)

ratio). What the data demonstrate is systematic variation in the provider level rate of 2.6 to 7.6 per 100 from the 5th to 95th percentile after a signal ratio of 0.307 is applied as the shrinkage estimator (that is, after accounting for variation due to random factors).

Table 3. Risk Adjustment Coefficients for IQI #11— AAA Repair Mortality

Parameter	Label	DF	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
Intercept		1	-6.6044	0.1713	1486.04	0.0000
Sex	Female	1	0.4539	0.0747	36.95	0.0000
Age	65 to 74	1	0.4879	0.1072	20.72	0.0000
Age	75 to 79	1	0.8737	0.1201	52.97	0.0000
Age	80 to 84	1	1.1092	0.1200	85.50	0.0000
Age	85+	1	1.4440	0.1359	112.97	0.0000
APR-DRG	'1691' to '1692'	1	1.6789	0.1623	107.05	0.0000
APR-DRG	'1693' to '1694'	1	3.9127	0.1523	659.72	0.0000
APR-DRG	'1733' to '1734'	1	3.1568	0.1676	354.55	0.0000
MDC	5	1	2.6400	0.1483	316.85	0.0000
MDC	Other	1	2.9536	0.2252	172.05	0.0000
RUPTURED		1	2.0565	0.0808	647.42	0.0000

c-statistic 0.937

Note: The APR-DRG consists of the DRG and the risk-of-mortality subclass (minor (1), moderate (2), major (3) and extreme (4)).

Steering Committee Follow-Up:

1. The Steering Committee requested information regarding needed methodological changes for the measure based on the endovascular and open repair stratification and will further review the measure with that information. AHRQ will also further clarify the risk adjustment model.
2. The Steering Committee was concerned that the developer had not addressed creating a composite of the volume (0357) and morbidity measure (0359). It noted that the developer had agreed to stratify the measure by endovascular and open repairs but that the measure did not have any reliability testing for the requested change. The Steering Committee asked for additional information about how the developer would redevelop their risk stratification model. On the August 3 conference call, the developer highlighted preliminary results about the measure's stratification. A Steering Committee member questioned whether the measure was useful for endovascular un-ruptured repairs, if the difference between the best performing hospitals was 0.00 percent and worst performing hospitals was 0.75 percent repairs, which was considered minimal. Additionally, it was noted that open ruptured repairs also showed little difference between the best performing hospitals at 24.74 percent and the worst performing hospitals at 26.53 percent. The Steering Committee resolved that while some of the collected data may show small differences, the measure would also show areas of variation. The developer further explained that they could use the data to identify hospitals that performed at better or worse than average but for other subsets.

On the August 3 conference call, the developer highlighted preliminary results of revising the measure with four strata – ruptured vs. unruptured; and open vs. endovascular repair using available data from a period of years using data from 1700 hospitals, of which 500 do endovascular repair of ruptured aneurysms. Based on the preliminary data of that stratification, a number of issues were discussed including whether the measure was useful for endovascular un-ruptured repairs, given minimal differences between the best performing hospitals (0.00 percent)and worst performing hospitals (0.75 percent);small differences in open ruptured repairs between hospitals that performed better than expected (24.74percent) and those that performed worse than expected (26.53 percent); risk stratification approaches using inpatient diagnoses vs. clinical data or outpatient diagnoses. The Steering Committee opined that while some of the collected data may show small differences, the breakdown can show areas of variation that warrant measurement and follow up. The developer is continuing to explore how the outcomes information can be put back together with volume for the requested composite/combined measures.

1. Importance to Measure and Report: Y-10; N-11; A-1

(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)

Rationale: The measure would provide key information to the public about AAA volume, but does not provide separate information on EVARs and open repairs. The majority of AAA repairs are done endovascularly and open repairs have become more complicated.

2. Scientific Acceptability of Measure Properties:

(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)

Rationale:

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)
3. Usability: *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale:
4. Feasibility: *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale:

0515 Ambulatory surgery patients with appropriate method of hair removal
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of ASC admissions with appropriate surgical site hair removal. Numerator Statement: ASC admissions with surgical site hair removal with a razor or clippers from the scrotal area, or with clippers or depilatory cream from all other surgical sites Denominator Statement: All ASC admissions with surgical site hair removal Exclusions: ASC admissions who perform their own hair removal Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/Agency Type of Measure: Process Data Source: Paper medical record/ flow-sheet Measure Steward: ASC Quality Collaboration | 5686 Escondida Blvd S | St. Petersburg | Florida | 33715
Steering Committee Recommendation for Endorsement: Recommended and placement in Reserve Status Rationale: This measure has high performance in the reporting populations. It would be appropriate to consider reporting the measure as part of a surgical bundle.
Steering Committee Follow-up: The measure developer requested that the Committee's recommendation of the measure be revised from reserve status to active endorsement. The Steering Committee noted that the 96 percent performance on the measure reflected a convenience sample of the 192 institutions that reported and may not accurately reflect performance within the larger ambulatory surgery community. Members agreed that continuing active endorsement of the measure could encourage reporting by those ASCs not currently participating. The developer stated that measure has been proposed for inclusion in the ASC measure set by CMS, and nationwide reporting is anticipated in the next year or so. The Committee agreed that, depending on the increase in reporting, this could allow for a more comprehensive review of the performance gap in the future.
1. Importance to Measure and Report: Y-6; N-13 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The evidence supports the measure; however, at a mean performance level of 96 percent and just over 7 percent of reporting centers with rates below 100 percent, the measure is at a high level of performance.
2. Scientific Acceptability of Measure Properties: C-5; P-13; M-0; N-1 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee stated that the validity testing of the measure could be improved, and the measure did not present disparity data.
3. Usability: C-7; P-9; M-2; N-1 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure is in wide use. It was noted that this measure was harmonized with measure *0301: Surgery patients with appropriate hair removal.*
4. Feasibility: C-13; P-4; M-2; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: Required data is generated as part of care and does not require additional sources.

0125 Timing of antibiotic prophylaxis for cardiac surgery patients
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing cardiac surgery who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if receiving vancomycin or fluoroquinolone) Numerator Statement: Number of patients undergoing cardiac surgery patients who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if vancomycin or fluoroquinolone)

0125 Timing of antibiotic prophylaxis for cardiac surgery patients
Denominator Statement: Number of patients undergoing cardiac surgery Exclusions: Cases are removed from the denominator if the patient had a documented contraindication or rationale for not administering antibiotic in medical record. Other exclusions include: -Patients who had a principal diagnosis suggestive of preoperative infectious diseases -Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope -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 -Patients who were receiving antibiotics within 24 hours prior to arrival This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians : Group, Facility/ Agency, Population : Counties or cities, Population : National, Population : Regional/ network, Population : states Type of Measure: Process Data Source: Registry data Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Conditional Y-17; N-2; A-0 Rationale: The evidence supporting the measure was considered strong.
If applicable, Conditions/Questions for Developer: 1. 1c.5 Rating of Strength/Quality of Evidence: Address the rating of evidence. 2. 2a.1 Numerator Statement: Provide the exact timing of the prophylactic antibiotic. Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization. Developer Response: 1. This is addressed in the measure submission form. 2. Exact timing was provided in the original measure submission form. Steering Committee Follow-Up: The Steering Committee requested additional information on the gaps and the link to outcomes, noting that individual measures may not have the effect on SSI rates that bundles can. Members also stated that antibiotic stewardship should be addressed. With developer response, the Committee members agreed they had an adequate response to their questions. (Also see related and competing measure discussion in later section of this document.)
1. Importance to Measure and Report: Y-17; N-2 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee noted controversy regarding the one hour timeframe for antibiotic prophylaxis. The performance gap for the measure was considered small but the outcome of mediastinitis and potentially death suggests measuring continued improvement effort is warranted.
2. Scientific Acceptability of Measure Properties: C-11; P-8; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee noted that laparoscopic procedures were excluded but in the future would be included in the measure.
3. Usability: C-13; P-6; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The Committee indicated that there were similar measures that may need to be harmonized including: #0269: Timing of prophylactic antibiotics - administering physician #0270: Timing of antibiotic prophylaxis- ordering physician #0472: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section #0527: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1.
4. Feasibility: C-15; P-4; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: While data for the measure is drawn from registry, the measure was considered feasible.

0264 Prophylactic intravenous (IV) antibiotic timing
For More Information: Complete Measure Submission; Meeting/Call Proceedings
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

0264 Prophylactic intravenous (IV) antibiotic timing

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 necessary/No stratification is required for this measure.

Level of Analysis: Facility/ Agency

Type of Measure: Process

Data Source: Paper medical record/ flow-sheet

Measure Steward: ASC Quality Collaboration | 5686 Escondida Blvd S | St. Petersburg | Florida | 33715

Steering Committee Recommendation for Endorsement: Conditional Y-18; N-1; A-0

Rationale: This measure was considered important to measure and report despite its small performance gap. The Committee wants to see disparities information prior to making any determination regarding continued reporting of the measure.

If applicable, Conditions/Questions for Developer:

1. 2a.1 Numerator Statement: Clarify 'on time.' Suggested modification-Instead of 'on time' change to 'one hour.'
2. 2h. Disparities in Care: Please submit any subpopulation performance data that is available for the measures. The committee understands that ASCs do not have a quality reporting system requirement; however, assessment of subpopulation data is important and should be collected and reported for this and other measures.

Developer Response:

In response to your suggestion, we are offering two items for your consideration:

1) Our rational for our current use of 'on time' and
2) What we will do if our rationale is not compelling to the Committee.

For clarification of "on time", please see Section 2a.3. Numerator Details on the measure submission form. The pertinent material is reproduced here:

2a.3. Numerator Details *(All information required to collect or calculate the numerator, including all codes, logic, and definitions)*

DEFINITIONS:

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:

This approach was selected in order to allow a concise numerator statement that clearly conveys the performance expectation of the measure, which is that any prophylactic IV antibiotics ordered preoperatively will be given in a timely manner. Defining "on time" separately allows us to avoid inserting a parenthetical modification in the numerator statement to address the two-hour exception for vancomycin and fluoroquinolones. Defining "on time" separately also allows us to simultaneously address several issues pertaining to timeliness: 1) how the time interval is to be measured (from initiation of infusion to the initial surgical incision, 2) how the time interval is to be measured for procedures that do not involve an incision, or that involve the inflation of a tourniquet, and 3) the existence of two allowable timeframes, depending upon the type of antibiotic administered. The data collected using these specifications supports the reliability of this approach. This method has been well received by the facilities that use the measure and we would prefer to continue to specify the measure in this manner.

However, if the measure will not continue to be endorsed in the absence of the modification suggested above , we would then revise the numerator statement to read as follows, which more closely mimics the phrasing of the other related measures:

Number of ambulatory surgical center (ASC) admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection with prophylactic antibiotic initiated within one hour prior to surgical incision (two hours if initiating vancomycin or a fluoroquinolone)

We would also delete the current data element definition of "on time" and add a new statement regarding "surgical incision":

DEFINITIONS:

Surgical incision: For purposes of this measure, the initial surgical incision or the beginning of the procedure (e.g., introduction of endoscope, insertion of needle, inflation of tourniquet).

{At this time, we have not made any changes regarding this specific issue to the measure currently on line. We will make the needed changes once we have direction from the steering committee.}

2h. Disparities in Care: Please submit any subpopulation performance data that is available for the measures. The committee understands that ASCs do not have a quality reporting system requirement; however, assessment of subpopulation data is important and should be collected and reported for this and other measures.

Response: The data the ASC Quality Collaboration currently receives for this measure is collected at the ASC-level or at the level of the corporate parent of the ASC. Corporate parent data submissions combine data from multiple ASCs. Disparity measures by population group require the collection of patient-level data or collection of the data for individual populations of patients. At this time, the ASC Quality Collaboration does not have access to any patient-level or individual population level data that would allow for analysis of subpopulation disparities based on race, sex and age. However, we understand the importance of subpopulation data and are taking steps that would allow us to collect the necessary data. We are actively

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pursuing the development of a registry that would allow us to develop subpopulation performance data for this measure and others. Potential registry development vendors have been identified and initial communications regarding the project have already taken place. We plan to select a vendor by third quarter of 2011, initiate the development of the registry database immediately upon contract acceptance, and have a functioning registry three months thereafter.

ADDITIONAL INFORMATION and Response from Measure Developer:

We have also revised 1b2/1b3/1b4/2f1/2f2/2f3 for this measure #0264 Antibiotic Timing to provide additional clarity:

1b.2. Summary of Data Demonstrating Performance Gap *(Variation or overall poor performance across providers)*

Although data for 671 ASCs are included in the ASC Quality Collaboration (ASC QC) database for this measure, many report at the corporate level and do not report data for individual ASCs. The ASC QC database includes center-level rates for this measure for 349 ASCs throughout the US. The rates for this measure are based on the 349 individually-reporting ambulatory surgery centers, located throughout the US. The rate for timely administration of a pre-operative antibiotic ranged from a minimum of 0.2% to a maximum of 100%. The mean rate was 96% (SD: 14.6%), while the median rate was 100%. The minimum compliance rate of 0.2% demonstrates that there is a significant opportunity for improvement in this measure.

1b.3. Citations for Data on Performance Gap

Although data for 671 ASCs are included in the ASC QC database, many report at the corporate level and do not report data for individual ASCs. The ASC QC database includes center-level rates for this measure for 349 ASCs throughout the US. The 349 individually-reporting ambulatory surgery centers represent a convenience sample that may be used to assess the opportunity for improvement for this measure. The centers were located throughout the US. Data collected for second calendar quarter of 2010 were included in this portion of the study.

1b.4. Summary of Data on Disparities by Population Group

This measure is currently collected at the ASC-level or at the level of the corporate parent of the ASC. Disparity measures by population group require the collection of patient-level data or collection of the data for individual populations of patients. The ASC QC is investigating a number of strategies that will make this type of data available and hopes to add this component in the near future.

2f.1. Data/Sample (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)

Although data for 671 ASCs are included in the ASC QC database, many report at the corporate level and do not report data for individual ASCs. The ASC QC database includes center-level rates for this measure for 349 ASCs throughout the US. The rates for this measure were collected for the 349 individually-reporting ambulatory surgery centers throughout the US for services provided during April to June 2010.

2f.2. Methods to Identify Statistically Significant and Practical or Meaningful Differences in Performance (Type of analysis and rationale)

An individual ASC's rate for timely administration of antibiotic may be compared to the standard rate from the ASC Quality website (http://www.ascquality.org/qualityreport.cfm#Antibiotic). A statistically significant difference in performance may be detected by using a standard test of proportions as outlined in most standard statistical texts. Since each delay in administration of the preoperative antibiotic may represent increased surgical site infection risk for the patient, a rate lower than the 94.4% is also of practical significance. The null hypothesis for this test is that the sample proportion from the ASC is not different from the industry standard taken from the ASC Quality website. The alternative is that there is a statistically significant difference. We recommend that this test be performed in its two-sided form so that the ASC may determine if they are either statistically higher or lower than the standard. The recommended p-value for this test is the 0.05 level, but ASCs may have justification for different value. Using this statistical method for detecting significant variances from the industry standard will allow users to determine if differences may be due to sampling error or may indicate a true difference in performance.

2f.3. Measure Scores from Testing or Current Use (Description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)The rate for timely administration of antibiotic ranged from a minimum of 0.2% to a maximum of 100%. The mean rate was 96.0% (SD: 14.6%), while the median rate was 100%. The maximum rates of 100% and a third quartile value of 100% demonstrate that there is an opportunity for improvement in this measure and that full compliance (100%) is achievable for all centers.

Steering Committee Follow-Up:

The Steering Committee agreed that the response from the developer was adequate.

1. Importance to Measure and Report: Y-17; N-2

(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)

Rationale: Performance on the measure is high; however disparities information is not presented. ASC noted that only about 900 of the eligible 5,200 institutions report.

2. Scientific Acceptability of Measure Properties: C-10; P-9; M-0; N-0

(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)

Rationale: The Committee questioned why the measure focused on antibiotics being provided in a one hour timeframe.

3. Usability: C-12; P-7; M-0; N-0

(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing

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measures)

Rationale: The Committee described the measure as usable.

4. Feasibility: C-13; P-6; M-0; N-0

(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)

Rationale: The measure uses procedure codes, which makes it less burdensome for ambulatory surgical centers to collect.

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For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percentage of abdominopelvic surgery cases with reclosure of postoperative disruption of abdominal wall.

Numerator Statement: Discharges among cases meeting the inclusion and exclusion rules for the denominator with ICD-9-CM procedure code for reclosure of postoperative disruption of abdominal wall.

Denominator Statement: All abdominopelvic surgical discharges under age 18.

Exclusions: Exclude cases:

• where a procedure for reclosure of postoperative disruption of abdominal wall occurs before or on the same day as the first abdominopelvic surgery procedure

Note: If day of procedure is not available in the input data file, the rate may be slightly lower than if the information was available

- Where length of stay is less than 2 days
- With any diagnosis of high- or immediate-risk immunocompromised state
- With an procedure code for transplant
- With hepatitis failure consisting of any diagnosis of cirrhosis plus a code for hepatic coma or hepatorenal syndrome in any diagnosis field with procedure code for gastroschisis or umbilical hernia repair in newborns (omphalacele repair) performed before reclosure
  - MDC 14 (pregnancy, childbirth, and puerperium)
  - neonates with birth weight less than 500 grams (Birth Weight Category 1)

Adjustment/Stratification: Risk adjustment method widely or commercially available/The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, birth weight (500g groups), age in days (29-60, 61-90, 91+), age in years (in 5-year age groups), modified CMS DRG and AHRQ CCS comorbidities. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 6 million pediatric discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate.

Required data elements: CMS Diagnosis Related Group (DRG); CMS Major Diagnostic Category (MDC); age in days up to 364, then age years at admission; International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) principal and secondary diagnosis codes/Clinical stratification for PDIs 10 and 11 is divided into four categories based on surgical class associated with the DRG or MS-DRG and whether or not the admission type is elective (SID ATYPE=3), as shown in the table below.

PDI 10 and PDI 11
Clinical Stratification Categories
Clinical Stratification
Surgical Class DRG
Admission Type
Strata 1. Clean Procedures Elective
1
Elective
Strata 2. Clean Procedures Non-Elective
1
Not Elective
Strata 3. Potentially Contaminated Elective
2, 3, or 9
Elective
Strata 4. Potentially Contaminated Non-Elective
2, 3, or 9
Not Elective
Surgical Class 1 DRGs
For discharges using DRGs (before October 1, 2007)
DRG - TITLE
003 - CRANIOTOMY AGE 0-17
006 - CARPAL TUNNEL RELEASE

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007 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W CC
008 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W/O CC
036 - RETINAL PROCEDURES
037 - ORBITAL PROCEDURES
038 - PRIMARY IRIS PROCEDURES
039 - LENS PROCEDURES WITH OR WITHOUT VITRECTOMY
041 - EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17
042 - INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS
049 - MAJOR HEAD & NECK PROCEDURES
050 - SIALOADENECTOMY
DRG - TITLE
051 - SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY
052 - CLEFT LIP & PALATE REPAIR
054 - SINUS & MASTOID PROCEDURES AGE 0-17
055 - MISCELLANEOUS EAR, NOSE, MOUTH & THROAT PROCEDURES
056 - RHINOPLASTY
058 - T&A PROC, EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17
060 - TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17
062 - MYRINGOTOMY W TUBE INSERTION AGE 0-17
063 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES
DRG - TITLE
103 - HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM
104 - CARDIAC VALVE & OTH MAJOR CARDIOTHORACIC PROC W CARD CATH
105 - CARDIAC VALVE & OTH MAJOR CARDIOTHORACIC PROC W/O CARD CATH
106 - CORONARY BYPASS W PTCA
108 - OTHER CARDIOTHORACIC PROCEDURES
110 - MAJOR CARDIOVASCULAR PROCEDURES W CC
111 - MAJOR CARDIOVASCULAR PROCEDURES W/O CC
113 - AMPUTATION FOR CIRC SYSTEM DISORDERS EXCEPT UPPER LIMB & TOE
114 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS
117 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT
118 - CARDIAC PACEMAKER DEVICE REPLACEMENT
119 - VEIN LIGATION & STRIPPING
120 - OTHER CIRCULATORY SYSTEM O.R. PROCEDURES
163 - HERNIA PROCEDURES AGE 0-17
168 - MOUTH PROCEDURES W CC
169 - MOUTH PROCEDURES W/O CC
212 - HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17
213 - AMPUTATION FOR MUSCULOSKELETAL SYSTEM & CONN TISSUE DISORDERS
216 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE
217 - WND DEBRID & SKN GRFT EXCEPT HAND,FOR MUSCSKELET & CONN TISS DIS
220 - LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR AGE 0-17
223 - MAJOR SHOULDER/ELBOW PROC, OR OTHER UPPER EXTREMITY PROC W CC
224 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC, W/O CC
225 - FOOT PROCEDURES
226 - SOFT TISSUE PROCEDURES W CC
227 -SOFT TISSUE PROCEDURES W/O CC
228 - MAJOR THUMB OR JOINT PROC,OR OTH HAND OR WRIST PROC W CC
229 - HAND OR WRIST PROC, EXCEPT MAJOR JOINT PROC, W/O CC
230 - LOCAL EXCISION & REMOVAL OF INT FIX DEVICES OF HIP & FEMUR
232 - ARTHROSCOPY
233 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W CC
DRG - TITLE
234 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W/O CC
257 - TOTAL MASTECTOMY FOR MALIGNANCY W CC
258 - TOTAL MASTECTOMY FOR MALIGNANCY W/O CC
259 - SUBTOTAL MASTECTOMY FOR MALIGNANCY W CC
260 - SUBTOTAL MASTECTOMY FOR MALIGNANCY W/O CC

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261 - BREAST PROC FOR NON-MALIGNANCY EXCEPT BIOPSY & LOCAL EXCISION
262 - BREAST BIOPSY & LOCAL EXCISION FOR NON-MALIGNANCY
285 - AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DISORDERS
286 - ADRENAL & PITUITARY PROCEDURES
287 - SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DISORDERS
289 - PARATHYROID PROCEDURES
290 - THYROID PROCEDURES
291 - THYROGLOSSAL PROCEDURES
292 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W CC
293 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W/O CC
338 - TESTES PROCEDURES, FOR MALIGNANCY
340 - TESTES PROCEDURES, NON-MALIGNANCY AGE 0-17
393 - SPLENECTOMY AGE 0-17
394 - OTHER O.R. PROCEDURES OF THE BLOOD AND BLOOD FORMING ORGANS
471 - BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY
479 - OTHER VASCULAR PROCEDURES W/O CC
481 - BONE MARROW TRANSPLANT
491 - MAJOR JOINT & LIMB REATTACHMENT PROCEDURES OF UPPER EXTREMITY
496 - COMBINED ANTERIOR/POSTERIOR SPINAL FUSION
497 - SPINAL FUSION EXCEPT CERVICAL W CC
498 - SPINAL FUSION EXCEPT CERVICAL W/O CC
499 - BACK & NECK PROCEDURES EXCEPT SPINAL FUSION W CC
500 - BACK & NECK PROCEDURES EXCEPT SPINAL FUSION W/O CC
501 - KNEE PROCEDURES W PDX OF INFECTION W CC
502 - KNEE PROCEDURES W PDX OF INFECTION W/O CC
503 - KNEE PROCEDURES W/O PDX OF INFECTION
515 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH
DRG - TITLE
518 - PERC CARDIO PROC W/O CORONARY ARTERY STENT OR AMI
519 - CERVICAL SPINAL FUSION W CC
520 - CERVICAL SPINAL FUSION W/O CC
525 - OTHER HEART ASSIST SYSTEM IMPLANT
528 - INTRACRANIAL VASCULAR PROC W PDX HEMORRHAGE
529 - VENTRICULAR SHUNT PROCEDURES W CC
530 - VENTRICULAR SHUNT PROCEDURES W/O CC
531 - SPINAL PROCEDURES W CC
532 - SPINAL PROCEDURES W/O CC
533 - EXTRACRANIAL PROCEDURES W CC
534 - EXTRACRANIAL PROCEDURES W/O CC
535 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK
536 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK
537 - LOCAL EXCIS & REMOV OF INT FIX DEV EXCEPT HIP & FEMUR W CC
538 - LOCAL EXCIS & REMOV OF INT FIX DEV EXCEPT HIP & FEMUR W/O CC
543 - CRANIOTOMY W MAJOR DEVICE IMPLANT OR ACUTE COMPLEX CNS PRINCIPAL DIAGNOSIS
544 - MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY
545 - REVISION OF HIP OR KNEE REPLACEMENT
DRG - TITLE
546 - SPINAL FUSION EXC CERV WITH CURVATURE OF THE SPINE OR MALIG
547 - CORONARY BYPASS W CARDIAC CATH W MAJOR CV DX
548 - CORONARY BYPASS W CARDIAC CATH W/O MAJOR CV DX
549 - CORONARY BYPASS W/O CARDIAC CATH W MAJOR CV DX
550 - CORONARY BYPASS W/O CARDIAC CATH W/O MAJOR CV DX
551 - PERMANENT CARDIAC PACEMAKER IMPL W MAJ CV DX OR AICD LEAD OR GNRTR
552 - OTHER PERMANENT CARDIAC PACEMAKER IMPLANT W/O MAJOR CV DX
553 - OTHER VASCULAR PROCEDURES W CC W MAJOR CV DX
554 - OTHER VASCULAR PROCEDURES W CC W/O MAJOR CV DX
555 - PERCUTANEOUS CARDIOVASCULAR PROC W MAJOR CV DX
556 - PERCUTANEOUS CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MAJ CV DX

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557 - PERCUTANEOUS CARDIOVASCULAR PROC W DRUG-ELUTING STENT W MAJOR CV DX
558 - PERCUTANEOUS CARDIOVASCULAR PROC W DRUG-ELUTING STENT W/O MAJ CV DX
577 - CAROTID ARTERY STENT PROCEDURE
Surgical Class 1 MS-DRGs
For discharges using MS-DRGs (on or after October 1, 2007)
MS-DRG - TITLE
001 - HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W MCC
002 - HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W/O MCC
009 - BONE MARROW TRANSPLANT
020 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W MCC
021 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W CC
022 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W/O CC/MCC
023 - CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W MCC OR CHEMO IMPLANT
024 - CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W/O MCC
027 - CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES W/O
MS-DRG - TITLE
CC/MCC
028- SPINAL PROCEDURES W MCC
029 - SPINAL PROCEDURES W CC OR SPINAL NEUROSTIMULATORS
030 - SPINAL PROCEDURES W/O CC/MCC
031 - VENTRICULAR SHUNT PROCEDURES W MCC
032 - VENTRICULAR SHUNT PROCEDURES W CC
033 - VENTRICULAR SHUNT PROCEDURES W/O CC/MCC
034 - CAROTID ARTERY STENT PROCEDURE W MCC
035 - CAROTID ARTERY STENT PROCEDURE W CC
036 - CAROTID ARTERY STENT PROCEDURE W/O CC/MCC
037 - EXTRACRANIAL PROCEDURES W MCC
038 - EXTRACRANIAL PROCEDURES W CC
039 - EXTRACRANIAL PROCEDURES W/O CC/MCC
AHRQ Quality Indicators Web Site: http://www.qualityindicators.ahrq.gov
Pediatric Quality Indicators Technical Specifications Version 4.2– 2010
PDI #11 Postoperative Wound Dehiscence Page 10
MS-DRG - TITLE
040 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W MCC
041 - PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC W CC OR PERIPH NEUROSTIM
042 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W/O CC/MCC
113 - ORBITAL PROCEDURES W CC/MCC
114 - ORBITAL PROCEDURES W/O CC/MCC
115 - EXTRAOCULAR PROCEDURES EXCEPT ORBIT
116 - INTRAOCULAR PROCEDURES W CC/MCC
117 - INTRAOCULAR PROCEDURES W/O CC/MCC
129 - MAJOR HEAD & NECK PROCEDURES W CC/MCC OR MAJOR DEVICE
130 - MAJOR HEAD & NECK PROCEDURES W/O CC/MCC
131 - CRANIAL/FACIAL PROCEDURES W CC/MCC
132 - CRANIAL/FACIAL PROCEDURES W/O CC/MCC
133 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W CC/MCC
134 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W/O CC/MCC
136 - SINUS & MASTOID PROCEDURES W/O CC/MCC
137 - MOUTH PROCEDURES W CC/MCC
138 - MOUTH PROCEDURES W/O CC/MCC
139 - SALIVARY GLAND PROCEDURES
215 - OTHER HEART ASSIST SYSTEM IMPLANT
216 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W MCC
217 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W CC
218 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W/O CC/MCC
219 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W MCC
220 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W CC
221 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W/O CC/MCC

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222 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W MCC
223 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W/O MCC
224 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W MCC
225 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W/O MCC
MS-DRG - TITLE
226 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W MCC
227 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W/O MCC
228 - OTHER CARDIOTHORACIC PROCEDURES W MCC
229 - OTHER CARDIOTHORACIC PROCEDURES W CC
230 - OTHER CARDIOTHORACIC PROCEDURES W/O CC/MCC
231 - CORONARY BYPASS W PTCA W MCC
232 - CORONARY BYPASS W PTCA W/O MCC
233 - CORONARY BYPASS W CARDIAC CATH W MCC
234 - CORONARY BYPASS W CARDIAC CATH W/O MCC
235 - CORONARY BYPASS W/O CARDIAC CATH W MCC
236 - CORONARY BYPASS W/O CARDIAC CATH W/O MCC
237 - MAJOR CARDIOVASC PROCEDURES W MCC OR THORACIC AORTIC ANUERYSM REPAIR
238 - MAJOR CARDIOVASCULAR PROCEDURES W/O MCC
239 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W MCC
240 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W CC
241 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W/O CC/MCC
242 - PERMANENT CARDIAC PACEMAKER IMPLANT W MCC
243 - PERMANENT CARDIAC PACEMAKER IMPLANT W CC
244 - PERMANENT CARDIAC PACEMAKER IMPLANT W/O CC/MCC
245 - AICD LEAD & GENERATOR PROCEDURES
246 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W MCC OR 4+ VESSELS/STENTS
247 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC
248 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W MCC OR 4+ VES/STENTS
249 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MCC
250 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W MCC
251 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W/O MCC
252 - OTHER VASCULAR PROCEDURES W MCC
DRG - TITLE
518 - PERC CARDIO PROC W/O CORONARY ARTERY STENT OR AMI
519 - CERVICAL SPINAL FUSION W CC
520 - CERVICAL SPINAL FUSION W/O CC
525 - OTHER HEART ASSIST SYSTEM IMPLANT
528 - INTRACRANIAL VASCULAR PROC W PDX HEMORRHAGE
529 - VENTRICULAR SHUNT PROCEDURES W CC
530 - VENTRICULAR SHUNT PROCEDURES W/O CC
531 - SPINAL PROCEDURES W CC
532 - SPINAL PROCEDURES W/O CC
533 - EXTRACRANIAL PROCEDURES W CC
534 - EXTRACRANIAL PROCEDURES W/O CC
535 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK
536 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK
537 - LOCAL EXCIS & REMOV OF INT FIX DEV EXCEPT HIP & FEMUR W CC
538 - LOCAL EXCIS & REMOV OF INT FIX DEV EXCEPT HIP & FEMUR W/O CC
543 - CRANIOTOMY W MAJOR DEVICE IMPLANT OR ACUTE COMPLEX CNS PRINCIPAL DIAGNOSIS
544 - MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY
545 - REVISION OF HIP OR KNEE REPLACEMENT
DRG - TITLE
546 - SPINAL FUSION EXC CERV WITH CURVATURE OF THE SPINE OR MALIG
547 - CORONARY BYPASS W CARDIAC CATH W MAJOR CV DX
548 - CORONARY BYPASS W CARDIAC CATH W/O MAJOR CV DX
549 - CORONARY BYPASS W/O CARDIAC CATH W MAJOR CV DX
550 - CORONARY BYPASS W/O CARDIAC CATH W/O MAJOR CV DX
551 - PERMANENT CARDIAC PACEMAKER IMPL W MAJ CV DX OR AICD LEAD OR GNRTR

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552 - OTHER PERMANENT CARDIAC PACEMAKER IMPLANT W/O MAJOR CV DX
553 - OTHER VASCULAR PROCEDURES W CC W MAJOR CV DX
554 - OTHER VASCULAR PROCEDURES W CC W/O MAJOR CV DX
555 - PERCUTANEOUS CARDIOVASCULAR PROC W MAJOR CV DX
556 - PERCUTANEOUS CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MAJ CV DX
557 - PERCUTANEOUS CARDIOVASCULAR PROC W DRUG-ELUTING STENT W MAJOR CV DX
558 - PERCUTANEOUS CARDIOVASCULAR PROC W DRUG-ELUTING STENT W/O MAJ CV DX
577 - CAROTID ARTERY STENT PROCEDURE
Surgical Class 1 MS-DRGs
For discharges using MS-DRGs (on or after October 1, 2007)
MS-DRG - TITLE
001 - HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W MCC
002 - HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W/O MCC
009 - BONE MARROW TRANSPLANT
020 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W MCC
021 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W CC
022 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W/O CC/MCC
023 - CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W MCC OR CHEMO IMPLANT
024 - CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W/O MCC
027 - CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES W/O
MS-DRG - TITLE
CC/MCC
028 - SPINAL PROCEDURES W MCC
029 - SPINAL PROCEDURES W CC OR SPINAL NEUROSTIMULATORS
030 - SPINAL PROCEDURES W/O CC/MCC
031 - VENTRICULAR SHUNT PROCEDURES W MCC
032 - VENTRICULAR SHUNT PROCEDURES W CC
033 - VENTRICULAR SHUNT PROCEDURES W/O CC/MCC
034 - CAROTID ARTERY STENT PROCEDURE W MCC
035 - CAROTID ARTERY STENT PROCEDURE W CC
036 - CAROTID ARTERY STENT PROCEDURE W/O CC/MCC
037 - EXTRACRANIAL PROCEDURES W MCC
038 - EXTRACRANIAL PROCEDURES W CC
039 - EXTRACRANIAL PROCEDURES W/O CC/MCC
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MS-DRG - TITLE
040 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W MCC
041 - PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC W CC OR PERIPH NEUROSTIM
042 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W/O CC/MCC
113 - ORBITAL PROCEDURES W CC/MCC
114 - ORBITAL PROCEDURES W/O CC/MCC
115 - EXTRAOCULAR PROCEDURES EXCEPT ORBIT
116 - INTRAOCULAR PROCEDURES W CC/MCC
117 - INTRAOCULAR PROCEDURES W/O CC/MCC
129 - MAJOR HEAD & NECK PROCEDURES W CC/MCC OR MAJOR DEVICE
130 - MAJOR HEAD & NECK PROCEDURES W/O CC/MCC
131 - CRANIAL/FACIAL PROCEDURES W CC/MCC
132 - CRANIAL/FACIAL PROCEDURES W/O CC/MCC
133 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W CC/MCC
134 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W/O CC/MCC
136 - SINUS & MASTOID PROCEDURES W/O CC/MCC
137 - MOUTH PROCEDURES W CC/MCC
138 - MOUTH PROCEDURES W/O CC/MCC
139 - SALIVARY GLAND PROCEDURES
215 - OTHER HEART ASSIST SYSTEM IMPLANT
216 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W MCC

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217 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W CC
218 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W/O CC/MCC
219 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W MCC
220 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W CC
221 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W/O CC/MCC
222 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W MCC
223 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W/O MCC
224 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W MCC
225 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W/O MCC
MS-DRG - TITLE
226 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W MCC
227 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W/O MCC
228 - OTHER CARDIOTHORACIC PROCEDURES W MCC
229 - OTHER CARDIOTHORACIC PROCEDURES W CC
230 - OTHER CARDIOTHORACIC PROCEDURES W/O CC/MCC
231 - CORONARY BYPASS W PTCA W MCC
232 - CORONARY BYPASS W PTCA W/O MCC
233 - CORONARY BYPASS W CARDIAC CATH W MCC
234 - CORONARY BYPASS W CARDIAC CATH W/O MCC
235 - CORONARY BYPASS W/O CARDIAC CATH W MCC
236 - CORONARY BYPASS W/O CARDIAC CATH W/O MCC
237 - MAJOR CARDIOVASC PROCEDURES W MCC OR THORACIC AORTIC ANUERYSM REPAIR
238 - MAJOR CARDIOVASCULAR PROCEDURES W/O MCC
239 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W MCC
240 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W CC
241 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W/O CC/MCC
242 - PERMANENT CARDIAC PACEMAKER IMPLANT W MCC
243 - PERMANENT CARDIAC PACEMAKER IMPLANT W CC
244 - PERMANENT CARDIAC PACEMAKER IMPLANT W/O CC/MCC
245 - AICD LEAD & GENERATOR PROCEDURES
246 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W MCC OR 4+ VESSELS/STENTS
247 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC
248 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W MCC OR 4+ VES/STENTS
249 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MCC
250 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W MCC
251 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W/O MCC
252 - OTHER VASCULAR PROCEDURES W MCC
MS-DRG - TITLE
253 - OTHER VASCULAR PROCEDURES W CC
254 - OTHER VASCULAR PROCEDURES W/O CC/MCC
255 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W MCC
256 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W CC
257 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W/O CC/MCC
258 - CARDIAC PACEMAKER DEVICE REPLACEMENT W MCC
259 - CARDIAC PACEMAKER DEVICE REPLACEMENT W/O MCC
260 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W MCC
261 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W CC
262 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W/O CC/MCC
263 - VEIN LIGATION & STRIPPING
264 - OTHER CIRCULATORY SYSTEM O.R. PROCEDURES
352 - INGUINAL & FEMORAL HERNIA PROCEDURES W/O CC/MCC
453 - COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W MCC
454 - COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W CC
455 - COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W/O CC/MCC
456 - SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR 9+ FUS W MCC
457 - SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR 9+ FUS W CC
458 - SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR 9+ FUS W/O CC/MCC
459 - SPINAL FUSION EXCEPT CERVICAL W MCC

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460 - SPINAL FUSION EXCEPT CERVICAL W/O MCC
461 - BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY W MCC
462 - BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY W/O MCC
463 - WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W MCC
464 - WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W CC
465 - WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W/O CC/MCC
466 - REVISION OF HIP OR KNEE REPLACEMENT W MCC
467 - REVISION OF HIP OR KNEE REPLACEMENT W CC
468 - REVISION OF HIP OR KNEE
MS-DRG - TITLE
REPLACEMENT W/O CC/MCC
469 - MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W MCC
470 - MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W/O MCC
471 - CERVICAL SPINAL FUSION W MCC
472 - CERVICAL SPINAL FUSION W CC
473 - CERVICAL SPINAL FUSION W/O CC/MCC
474 - AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W MCC
475 - AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W CC
476 - AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W/O CC/MCC
477 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W MCC
478 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W CC
479 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W/O CC/MCC
482 - HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT W/O CC/MCC
483 - MAJOR JOINT & LIMB REATTACHMENT PROC OF UPPER EXTREMITY W CC/MCC
484 - MAJOR JOINT & LIMB REATTACHMENT PROC OF UPPER EXTREMITY W/O CC/MCC
485 - KNEE PROCEDURES W PDX OF INFECTION W MCC
486 - KNEE PROCEDURES W PDX OF INFECTION W CC
487 - KNEE PROCEDURES W PDX OF INFECTION W/O CC/MCC
488 - KNEE PROCEDURES W/O PDX OF INFECTION W CC/MCC
489 - KNEE PROCEDURES W/O PDX OF INFECTION W/O CC/MCC
490 - BACK & NECK PROC EXC SPINAL FUSION W CC/MCC OR DISC DEVICE/NEUROSTIM
491 - BACK & NECK PROC EXC SPINAL FUSION W/O CC/MCC
494 - LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR W/O CC/MCC
495 - LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W MCC
496 - LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W CC
497 - LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W/O CC/MCC
498 - LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR W CC/MCC
499 - LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR W/O CC/MCC
500 - SOFT TISSUE PROCEDURES W MCC
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MS-DRG - TITLE
501 - SOFT TISSUE PROCEDURES W CC
502 - SOFT TISSUE PROCEDURES W/O CC/MCC
503 - FOOT PROCEDURES W MCC
504 - FOOT PROCEDURES W CC
505 - FOOT PROCEDURES W/O CC/MCC
506 - MAJOR THUMB OR JOINT PROCEDURES
507 - MAJOR SHOULDER OR ELBOW JOINT PROCEDURES W CC/MCC
508 - MAJOR SHOULDER OR ELBOW JOINT PROCEDURES W/O CC/MCC
509 - ARTHROSCOPY
510 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W MCC
511 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W CC
512 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W/O CC/MCC
513 - HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC W CC/MCC
514 - HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC W/O CC/MCC
515 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W MCC

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516 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W CC
517 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W/O CC/MCC
582 - MASTECTOMY FOR MALIGNANCY W CC/MCC
583 - MASTECTOMY FOR MALIGNANCY W/O CC/MCC
584 - BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES W CC/MCC
585 - BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES W/O CC/MCC
614 - ADRENAL & PITUITARY PROCEDURES
MS-DRG - TITLE
W CC/MCC
615 - ADRENAL & PITUITARY PROCEDURES W/O CC/MCC
616 - AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W MCC
617 - AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W CC
618 - AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W/O CC/MCC
622 - SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W MCC
623 - SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W CC
624 - SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W/O CC/MCC
625 - THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W MCC
626 - THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W CC
627 - THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W/O CC/MCC
628 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W MCC
629 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W CC
630 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W/O CC/MCC
711 - TESTES PROCEDURES W CC/MCC
712 - TESTES PROCEDURES W/O CC/MCC
800 - SPLENECTOMY W CC
801 - SPLENECTOMY W/O CC/MCC
802 - OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W MCC
803 - OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W CC
804 - OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W/O CC/MCC
Surgical Class 2 DRGs
For discharges using DRGs (before October 1, 2007)
DRG - TITLE
075 - MAJOR CHEST PROCEDURES
076 - OTHER RESP SYSTEM O.R. PROCEDURES W CC
077 - OTHER RESP SYSTEM O.R. PROCEDURES W/O CC
146 - RECTAL RESECTION W CC
147 - RECTAL RESECTION W/O CC
149 - MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC
150 - PERITONEAL ADHESIOLYSIS W CC
151 - PERITONEAL ADHESIOLYSIS W/O CC
DRG - TITLE
152 - MINOR SMALL & LARGE BOWEL PROCEDURES W CC
153 - MINOR SMALL & LARGE BOWEL PROCEDURES W/O CC
156 - STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE 0-17
157 - ANAL & STOMAL PROCEDURES W CC
158 - ANAL & STOMAL PROCEDURES W/O CC
166 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W CC
DRG - TITLE
167 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W/O CC
170 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W CC
171 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W/O CC
191 - PANCREAS, LIVER & SHUNT PROCEDURES W CC
192 - PANCREAS, LIVER & SHUNT PROCEDURES W/O CC
193 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W CC
194 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W/O CC
195 - CHOLECYSTECTOMY W C.D.E. W CC
196 - CHOLECYSTECTOMY W C.D.E. W/O CC
197 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W CC

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198 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W/O CC
199 - HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY
200 - HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY
201 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES
265 - SKIN GRAFT &/OR DEBRID EXCEPT FOR SKIN ULCER OR CELLULITIS W CC
266 - SKIN GRAFT &/OR DEBRID EXCEPT FOR SKIN ULCER OR CELLULITIS W/O CC
267 - PERIANAL & PILONIDAL PROCEDURES
268 - SKIN, SUBCUTANEOUS TISSUE & BREAST PLASTIC PROCEDURES
269 - OTHER SKIN, SUBCUT TISS & BREAST PROC W CC
270 - OTHER SKIN, SUBCUT TISS & BREAST PROC W/O CC
288 - O.R. PROCEDURES FOR OBESITY
302 - KIDNEY TRANSPLANT
303 - KIDNEY AND URETER PROCEDURES FOR NEOPLASM
304 - KIDNEY AND URETER PROCEDURES FOR NON-NEOPLASM WITHOUT CC
305 - KIDNEY AND URETER PROCEDURES FOR NON-NEOPLASM WITHOUT CC
306 - PROSTATECTOMY W CC
307 - PROSTATECTOMY W/O CC
308 - MINOR BLADDER PROCEDURES W CC
309 - MINOR BLADDER PROCEDURES W/O CC
310 - TRANSURETHRAL PROCEDURES W CC
311 - TRANSURETHRAL PROCEDURES W/O CC
314 - URETHRAL PROCEDURES, AGE 0-17
315 - OTHER KIDNEY & URINARY TRACT O.R. PROCEDURES
334 - MAJOR MALE PELVIC PROCEDURES W CC
335 - MAJOR MALE PELVIC PROCEDURES W/O CC
336 - TRANSURETHRAL PROSTATECTOMY W CC
DRG - TITLE
337 - TRANSURETHRAL PROSTATECTOMY W/O CC
341 - PENIS PROCEDURES
343 - CIRCUMCISION AGE 0-17
344 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY
345 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT FOR MALIGNANCY
353 - PELVIC EVISCERATION, RADICAL HYSTERECTOMY & RADICAL VULVECTOMY
354 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W CC
355 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W/O CC
356 - FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES
357 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY
358 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W CC
359 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W/O CC
360 - VAGINA, CERVIX & VULVA PROCEDURES
361 - LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION
362 - ENDOSCOPIC TUBAL INTERRUPTION
363 - D&C, CONIZATION & RADIO-IMPLANT, FOR MALIGNANCY
364 - D&C, CONIZATION EXCEPT FOR MALIGNANCY
365 - OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES
370 - CESAREAN SECTION W CC
371 - CESAREAN SECTION W/O CC
372 - VAGINAL DELIVERY W COMPLICATING DIAGNOSES
373 - VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES
374 - VAGINAL DELIVERY W STERILIZATION &/OR D&C
375 - VAGINAL DELIVERY W O.R. PROC EXCEPT STERIL &/OR D&C
377 - POSTPARTUM & POST ABORTION DIAGNOSES W O.R. PROCEDURE
381 - ABORTION W D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY
468 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS
476 - PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS
477 - NON-EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS
480 - LIVER TRANSPLANT AND/OR INTESTINAL TRANSPLANT
482 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES

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493 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W CC
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DRG - TITLE
494 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC
495 - LUNG TRANSPLANT
512 - SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT
513 - PANCREAS TRANSPLANT
541 - ECMO OR TRACH W MV 96+HRS OR PDX EXC FACE, MOUTH & NECK W MAJ O.R.
DRG - TITLE
542 - TRACH W MV 96+HRS OR PDX EXC FACE, MOUTH & NECK W/O MAJ O.R.
559 - ACUTE ISCHEMIC STROKE WITH USE OF THROMBOLYTIC AGENT
569 - MAJOR SMALL & LARGE BOWEL PROCEDURES W CC W MAJOR GI DX
570 - MAJOR SMALL & LARGE BOWEL PROCEDURES W CC W/O MAJOR GI DX
573 - MAJOR BLADDER PROCEDURES
Surgical Class 2 MS-DRGs
For discharges using MS-DRGs (on or after October 1, 2007)
MS-DRG - TITLE
003 - ECMO OR TRACH W MV 96+ HRS OR PDX EXC FACE, MOUTH & NECK W MAJ O.R.
004 - TRACH W MV 96+ HRS OR PDX EXC FACE, MOUTH & NECK W/O MAJ O.R.
005 - LIVER TRANSPLANT W MCC OR INTESTINAL TRANSPLANT
006 - LIVER TRANSPLANT W/O MCC
007 - LUNG TRANSPLANT
008 - SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT
010 - PANCREAS TRANSPLANT
011 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W MCC
012 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W CC
013 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W/O CC/MCC
061 - ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W MCC
062 - ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W CC
063 - ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/O CC/MCC
163 - MAJOR CHEST PROCEDURES W MCC
164 - MAJOR CHEST PROCEDURES W CC
165 - MAJOR CHEST PROCEDURES W/O CC/MCC
166 - OTHER RESP SYSTEM O.R. PROCEDURES W MCC
167 - OTHER RESP SYSTEM O.R. PROCEDURES W CC
168 - OTHER RESP SYSTEM O.R. PROCEDURES W/O CC/MCC
327 - STOMACH, ESOPHAGEAL & DUODENAL PROC W CC
329 - MAJOR SMALL & LARGE BOWEL PROCEDURES W MCC
330 - MAJOR SMALL & LARGE BOWEL PROCEDURES W CC
331 - MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC/MCC
332 - RECTAL RESECTION W MCC
333 - RECTAL RESECTION W CC
334 - RECTAL RESECTION W/O CC/MCC
MS-DRG - TITLE
335 - PERITONEAL ADHESIOLYSIS W MCC
336
PERITONEAL ADHESIOLYSIS W CC
337 - PERITONEAL ADHESIOLYSIS W/O CC/MCC
341 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W MCC
342 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W CC
343 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W/O CC/MCC
344 - MINOR SMALL & LARGE BOWEL PROCEDURES W MCC
345 - MINOR SMALL & LARGE BOWEL PROCEDURES W CC
346 - MINOR SMALL & LARGE BOWEL PROCEDURES W/O CC/MCC
347 - ANAL & STOMAL PROCEDURES W MCC
348 - ANAL & STOMAL PROCEDURES W CC

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349 - ANAL & STOMAL PROCEDURES W/O CC/MCC
356 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W MCC
357 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W CC
358 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W/O CC/MCC
405 - PANCREAS, LIVER & SHUNT PROCEDURES W MCC
406 - PANCREAS, LIVER & SHUNT PROCEDURES W CC
407 - PANCREAS, LIVER & SHUNT PROCEDURES W/O CC/MCC
408 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W MCC
409 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W CC
410 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W/O CC/MCC
411 - CHOLECYSTECTOMY W C.D.E. W MCC
412 - CHOLECYSTECTOMY W C.D.E. W CC
413 - CHOLECYSTECTOMY W C.D.E. W/O CC/MCC
414 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W MCC
MS-DRG - TITLE
415 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W CC
416 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W/O CC/MCC
417 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W MCC
418 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W CC
419 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC/MCC
420 - HEPATOBILIARY DIAGNOSTIC PROCEDURES W MCC
421 - HEPATOBILIARY DIAGNOSTIC PROCEDURES W CC
422 - HEPATOBILIARY DIAGNOSTIC PROCEDURES W/O CC/MCC
423 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W MCC
424 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W CC
425 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W/O CC/MCC
576 - SKIN GRAFT &/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS W MCC
577 - SKIN GRAFT &/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS W CC
578 - SKIN GRAFT &/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS W/O CC/MCC
579 - OTHER SKIN, SUBCUT TISS & BREAST PROC W MCC
580 - OTHER SKIN, SUBCUT TISS & BREAST PROC W CC
581 - OTHER SKIN, SUBCUT TISS & BREAST PROC W/O CC/MCC
619 - O.R. PROCEDURES FOR OBESITY W MCC
620 - O.R. PROCEDURES FOR OBESITY W CC
621 - O.R. PROCEDURES FOR OBESITY W/O CC/MCC
652 - KIDNEY TRANSPLANT
653 - MAJOR BLADDER PROCEDURES W MCC
654 - MAJOR BLADDER PROCEDURES W CC
655 - MAJOR BLADDER PROCEDURES W/O CC/MCC
656 - KIDNEY & URETER PROCEDURES FOR NEOPLASM W MCC
657 - KIDNEY & URETER PROCEDURES FORNEOPLASM W CC
658 - KIDNEY & URETER PROCEDURES FOR NEOPLASM W/O CC/MCC
659 - KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W MCC
660 - KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W CC
661 - KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W/O CC/MCC
662 - MINOR BLADDER PROCEDURES W MCC
663 - MINOR BLADDER PROCEDURES W CC
MS-DRG - TITLE
664 - MINOR BLADDER PROCEDURES W/O CC/MCC
665 - PROSTATECTOMY W MCC
666 - PROSTATECTOMY W CC
667 - PROSTATECTOMY W/O CC/MCC
668 - TRANSURETHRAL PROCEDURES W MCC
669 - TRANSURETHRAL PROCEDURES W CC
670 - TRANSURETHRAL PROCEDURES W/O CC/MCC
672 - URETHRAL PROCEDURES W/O CC/MCC
673 - OTHER KIDNEY & URINARY TRACT PROCEDURES W MCC
674 - OTHER KIDNEY & URINARY TRACT PROCEDURES W CC

0367 Post operative wound dehiscence (PDI 11)
675 - OTHER KIDNEY & URINARY TRACT PROCEDURES W/O CC/MCC
707 - MAJOR MALE PELVIC PROCEDURES W CC/MCC
708 - MAJOR MALE PELVIC PROCEDURES W/O CC/MCC
709 - PENIS PROCEDURES W CC/MCC
710 - PENIS PROCEDURES W/O CC/MCC
713 - TRANSURETHRAL PROSTATECTOMY W CC/MCC
714 - TRANSURETHRAL PROSTATECTOMY W/O CC/MCC
715 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY W CC/MCC
716 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY W/O CC/MCC
717 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY W CC/MCC
718 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY W/O CC/MCC
734 - PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY W CC/MCC
735 - PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY W/O CC/MCC
736 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W MCC
737 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W CC
738 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W/O CC/MCC
739 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W MCC
740 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W CC
741 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W/O CC/MCC
AHRQ Quality Indicators Web Site: http://www.qualityindicators.ahrq.gov
Pediatric Quality Indicators Technical Specifications Version 4.2– 2010
PDI #11 Postoperative Wound Dehiscence Page 16
MS-DRG - TITLE
742 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W CC/MCC
743 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W/O CC/MCC
744 - D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION W CC/MCC
745 - D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION W/O CC/MCC
746 - VAGINA, CERVIX & VULVA PROCEDURES W CC/MCC
747 - VAGINA, CERVIX & VULVA PROCEDURES W/O CC/MCC
748 - FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES
749 - OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES W CC/MCC
750 - OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES W/O CC/MCC
765 - CESAREAN SECTION W CC/MCC
766 - CESAREAN SECTION W/O CC/MCC
767 - VAGINAL DELIVERY W STERILIZATION &/OR D&C
768 - VAGINAL DELIVERY W O.R. PROC EXCEPT STERIL &/OR D&C
769 - POSTPARTUM & POST ABORTION DIAGNOSES W O.R. PROCEDURE
770 - ABORTION W D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY
774 - VAGINAL DELIVERY W COMPLICATING DIAGNOSES
MS-DRG - TITLE
775 - VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES
981 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W MCC
982 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W CC
983 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC
984 - PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W MCC
985
PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W CC
986
PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC
987 - NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W MCC
988 - NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W CC
989 - NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC
Surgical Class 3 DRGs
For discharges using DRGs (before October 1, 2007)
DRG - TITLE
263 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W CC
264 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W/O CC
439 - SKIN GRAFTS FOR INJURIES

0367 Post operative wound dehiscence (PDI 11)
440 - WOUND DEBRIDEMENTS FOR INJURIES 441 - HAND PROCEDURES FOR INJURIES 442 - OTHER O.R. PROCEDURES FOR INJURIES W CC 443 - OTHER O.R. PROCEDURES FOR INJURIES W/O CC 484 - CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA DRG - TITLE 485 - LIMB REATTACHMENT, HIP AND FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA 486 - OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA 504 - EXTEN. BURNS OR FULL THICKNESS BURN W/MV 96+HRS W/SKIN GFT 506 - FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ W CC OR SIG TRAUMA 507 - FULL THICKNESS BURN W SKIN GRFT OR INHAL INJ W/O CC OR SIG TRAUMA Surgical Class 3 MS-DRGs For discharges using MS-DRGs (on or after October 1, 2007) MS-DRG - TITLE 573 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W MCC MS-DRG - TITLE 574 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W CC Level of Analysis: Facility/ Agency Type of Measure: Outcome Data Source: Electronic administrative data/ claims Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850
Steering Committee Recommendation for Endorsement: *No did not pass Importance to Measure and Report* Y-5; N-14 Rationale: Did not pass threshold criterion of Importance to Measure and Report; thus, not assessed against remaining criteria.
Steering Committee Follow-Up: The measure developer requested that the Steering Committee reconsider its recommendation related to endorsement of measures 0367 and 0368. The Steering Committee re-examined the evidence cited and the clarification offered by the measure developer. Members continued to register concern about: 1) the low rate of wound dehiscence, which has remained stable over a long period; 2) evidence (Hannan, et al. *A methodology for targeting hospital cases for quality of care record reviews*, 1989.) that points to dehiscence for which the fundamental problem is infection; 3) the lack of a standard of care for wound dehiscence prevention or contributing risk factors; and 4) that the rate cannot be reduced due to lack of non-patient specific factors that can be influenced. The overriding concern was that the measure does not provide clinically meaningful, actionable data.
1. Importance to Measure and Report: Y-5; N-14 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee noted that only about 25 percent of wound dehiscence has been demonstrated to have modifiable factors. Twenty-five percent of wound dehiscence is not preventable and the cause in another 41 percent is uncertain; thus, the rationale for the measure is not supported by the literature. Also, members were concerned that the evidence for the measure appeared to be based on an analysis of patients with a secondary diagnosis code for "other than wound disruptions". The Committee noted that the disparity data could be improved. Finally, they stated that the evidence does not indicate that wound dehiscence is a problem specifically in children and only a small number of patients experience wound dehiscence.
2. Scientific Acceptability of Measure Properties: *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale:
3. Usability: *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale:
4. Feasibility: *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale:

0368 Post operative wound dehiscence (PSI 14)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of abdominopelvic surgery cases with reclosure of postoperative disruption of abdominal wall. Numerator Statement: Discharges among cases meeting the inclusion and exclusion rules for the denominator with ICD-9-CM procuedure code for reclosure of postoperative disruption of abdominal wall procedure. Denominator Statement: All abdominopelvic surgical discharges age 18 and older.

0368 Post operative wound dehiscence (PSI 14)

Exclusions: Exclude cases:
• where a procedure for reclosure of postoperative disruption of abdominal wall occurs before or on the same day as the first abdominopelvic surgery procedure
Note: If day of procedure is not available in the input data file, the rate may be slightly lower than if the information was available
• where length of stay is less than 2 days
• with any diagnosis or procedure code for immunocompromised state
• MDC 14 (pregnancy, childbirth, and puerperium).
Adjustment/Stratification: risk adjustment method widely or commercially available The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, birth weight (500g groups), age in days (29-60, 61-90, 91+), age in years (in 5-year age groups), modified CMS DRG and AHRQ CCS comorbidities. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 6 million pediatric discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate.
Required data elements: CMS Diagnosis Related Group (DRG); CMS Major Diagnostic Category (MDC); patient gender; age in years at admission; International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) principal and secondary diagnosis codes/The user has the option to stratify by gender, birth weight, age in days, age in years (5-year age groups), race / ethnicity, primary payer, and custom stratifiers.
Level of Analysis: Facility/ Agency
Type of Measure: Outcome
Data Source: Electronic administrative data/ claims
Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

Steering Committee Recommendation for Endorsement: *No did not pass Importance to Measure and Report* Y-6; N-13
Rationale: Did not pass threshold criterion of Importance to Measure and Report; thus, not assessed against remaining criteria.

Steering Committee Follow-Up:
The measure developer requested that the Steering Committee reconsider its recommendation related to endorsement of measures 0367 and 0368. The Steering Committee re-examined the evidence cited and the clarification offered by the measure developer. Members continued to register concern about: 1) the low rate of wound dehiscence, which has remained stable over a long period; 2) evidence (Hannan, et al. *A methodology for targeting hospital cases for quality of care record reviews*, 1989.) that points to dehiscence for which the fundamental problem is infection; 3) the lack of a standard of care for wound dehiscence prevention or contributing risk factors; and 4) that the rate cannot be reduced due to lack of non-patient specific factors that can be influenced. The overriding concern was that the measure does not provide clinically meaningful, actionable data.

1. Importance to Measure and Report: Y-6; N-13
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The Committee noted that only about 25 percent of wound dehiscence has been demonstrated to have modifiable factors. Twenty-five percent of wound dehiscence is not preventable and the cause in another 41 percent is uncertain thus the rationale for the measure is not supported by the literature. Also, members were concerned that evidence for measure appeared to be based on an analysis of patients with a secondary diagnosis code for other than wound disruptions. The Committee noted that the disparity data could be improved. Finally, they stated only a very small number of patients experience wound dehiscence. It was noted that as in the case of many safety measures, the volume is often quite small and that the utility of the patient safety indicators is that they often serve as surrogate measures or trigger tools for which data is readily availability. In the case of these measures, comment was made that there is not a significant association with them as marked due to their infrequency of occurrence. Any additional discussion of the measure should be accompanied by data regarding its actual impact.

2. Scientific Acceptability of Measure Properties:
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale:

3. Usability:
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale:

4. Feasibility:
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale:

RELATED AND COMPETING MEASURES

Following a brief review of NQF guidance related to related and competing measures presented by Heidi Bossley, the Committee discussed the following measures potentially related or competing measures for opportunity for harmonization or selection of the best measure of those determined to be competing (comparison tables are provided at the end of this document). Harmonization will be addressed in an addendum report to the Surgery maintenance project.

- **Cataracts**
  - *New Candidate Measure 1536*: Cataracts: Improvement in patient's visual function within 90 days following cataract surgery
  - *Endorsed Measure 0565*: Cataracts: 20/40 or better visual acuity within 90 days following cataract surgery

The Steering Committee noted that measures 1536 and 0565 are similar but not competing since one measures acuity and the other patient perception of visual function. Potential for harmonization was discussed in terms of numerator and denominator as well as data gathering strategies. It was determined that harmonization could result in the loss of valuable information. The group also liked the fact that measure 1536 measures patient satisfaction. Variation between the measures was considered acceptable since the measures are designed to capture different things/data.

- **Failure to Rescue**
  - *Maintenance Measure 0352*: Failure to rescue in-hospital mortality (risk adjusted)
  - *Maintenance Measure 0351*: Death among surgical in-patients with serious, treatable complications (PSI 4)
  - *Maintenance Measure 0353*: Failure to rescue 30-day mortality (risk adjusted)

It was noted that measures 0352 and 0353 were initially a single measure that were divided at request of the NQF steering committee that initially considered the measure. The Steering Committee discussed the in-hospital focused measures with the developers in some detail. They noted that while the measures have common elements, measure 0351 captures a broader list of procedures and that some measures of validity have a stronger association with that measure. They also noted that measure 0352 captures a broader group of complications and reliability measures higher than those of 0351 have been reported. Members commented that the measures, while conceptually similar, appear to have different aims; i.e., capture of avoidable complications vs. failure to rescue. In reflecting on the question of whether measure similarities argue for consideration of whether one meets criteria better than the other, they agreed that the measures have different objectives and are complementary.

- **Pancreatic Resection**
  - *Maintenance Measure 0365*: Pancreatic resection mortality rate (IQI 9)
  - *Maintenance Measure 0366*: Pancreatic resection volume (IQI 2)
  - *Endorsed Measure 0738*: Survival predictor for pancreatic resection surgery

The Steering Committee requested the measure developer continue its expedited work to combine measures 0365 and 0366, including benign disease. After some discussion, the Members agreed that because measures 0365 and 0366 are risk adjusted and measure 0738 is not, that recommendations related to harmonization of numerator and denominator should not be advanced at this time.

- **Statin Medication**
  - *Maintenance Measure 0118*: Anti-lipid treatment discharge (Recommended in Phase I)
  - *New Candidate Measure 1519*: Statin therapy at discharge after lower extremity bypass (LEB)

The Steering Committee stated that measures 0118 and 1519 were related in terms of therapy used. They involve different procedures and different patient populations and are reasonably aligned thus no further action was recommended.

- **Beta Blocker**
  - *Endorsed Measure 0235*: Pre-op beta blocker in patient with isolated CABG (1)
  - *Maintenance Measure 0127*: Pre-operative beta blockade
  - *Endorsed Measure 0236*: Pre-op beta blocker in patient with isolated CABG (2)
  - *Maintenance Measure 0284*: Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period

The Steering Committee stated that measure 0284 is unique and harmonization will not be pursued at this time since it applies beyond CABG to other surgical patients receiving beta blocker therapy prior to admission. The Steering Committee identified measures 0235 and 0127 as similar and should be combined into a single measure. The measure developer confirmed that the measures are similar with the exception of the level of measurement and indicated that they would combine them into a single measure from which information at the individual or facility level can be drawn. The developer also noted that measures 0235 and 0236 are identical in their specifications and are two components of a Physician Quality Reporting System (PQRS) measure. The Steering Committee stated that they considered the measures derived from registry data (measures 0235 and 0127) and administrative claims data (measure 0236) to be similar but not competing since the two data sources result in capture of information about different populations; both measures are useful and valid.

Prophylactic Antibiotics: Discontinued

- *Maintenance Measure 0529*: Prophylactic antibiotics discontinued within 24 hours after surgery end time
- *Endorsed Measure 0637*: Discontinuation of prophylactic antibiotics (cardiac procedures)
- *Maintenance Measure 0128*: Duration of antibiotic prophylaxis for cardiac surgery patients
- *Endorsed Measure 0271*: Discontinuation of prophylactics antibiotics (non-cardiac procedures)

The Steering Committee determined there were no competing measures in the group. Members requested that the developers evaluate the extent to which harmonization of the four measures could be accomplished. They asked that initial focus be on refining the exclusions to ensure they capture the same information and that end times of 24 and 48 hours be examined in terms of whether there are cardiac surgeries for which the different end times are specifically indicated and if so that they be specified for capture within the relevant measures. Also, members asked that the laparoscopy exclusion be removed from Measure 0128. For those measures not within the current project (AMA-PCPI measures 0637 and 0271), NQF staff will relay the requests of the Committee for their consideration as they update and test the measures.

- **Prophylactic Antibiotics: Selection**
  - *Maintenance Measure 0126*: Selection of antibiotic prophylaxis for cardiac surgery patients
  - *Endorsed Measure 0268*: Selection of prophylactic antibiotic: First or second generation cephalosporin
  - *Maintenance Measure 0528*: Prophylactic antibiotic selection for surgical patients

The Steering Committee determined there were no competing measures in the group. Members made no recommendations for harmonization of measure 0126 which is limited to cardiac surgery and is derived from registry data. Members requested that measures 0268 and 0528 be combined into a single measure from which the cephalosporin data for individual clinicians required by 0268 could be reported as a subset. For the measure not within the current project (AMA-PCPI measure 0268), NQF staff will relay the request of the Committee for their consideration as they update and test the measure.

- **Prophylactic Antibiotics: Timing/Received**

- *Maintenance Measure 0125*: Timing of antibiotic prophylaxis for cardiac surgery patients
- *Endorsed Measure 0269*: Timing of prophylactic antibiotics-administering physician
- *Endorsed Measure 0270*: Timing of antibiotic prophylaxis-ordering physician
- *Maintenance Measure 0527*: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1
- *Endorsed Measure: 0472*: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery-cesarean section

The Steering Committee requested that the developer of measures 0270 and 0269, neither of which are under consideration in this project, be approached by NQF staff to determine the current state of these measures and encourage them to consider combining them into a single measure that focuses on administration. Based on their opinion that timing of antibiotics administration prior to surgical incision, including for cardiac surgery, should not be different, Members asked that the developers of the five measures be asked to collaborate on the potential for combining the measures into a single measure that most closely mirrors measure 0527 to the extent possible. As part of that effort, they asked that the developer of measure 0472 provide information about any differences that would make administration of antibiotic at delivery unique. They did not view incision for cesarean unique With respect to measure 0125, they asked that the developer provide information about whether registry data would provide significantly different outcomes than administrative/claims data across institutions. For the measures not within the current project (AMA-PCPI measure 0269 and 270 and Mass General measure 0472), NQF staff will relay the request of the Committee for their consideration and feedback.

Related and Competing Measures for Further Discussion

- **AAA Repair**
  - *Maintenance Measure 0357*: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)
  - *Maintenance Measure 0359*: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)
  - *Endorsed Measure 0736*: Survival predictor for abdominal aortic aneurysm (AAA)
  - *New Candidate Measure 1523*: In-hospital mortality following elective open repair of small AAAs
  - *New Candidate Measure 1534*: In-hospital mortality following elective EVAR of small AAAs

The Steering Committee requested the measure developer to create a composite measure of 0357 and 0359. The composite measure will then be evaluated against related and competing measures during a follow-up conference call.

Measures and Evaluations

The summary below displays follow-up items from 19 measures considered at the May 4-5 in-person meeting, including actions taken by the Steering Committee on conditional recommendations or preliminary review. (See the summary from the May 4-5 meeting for the original evaluation of the measures.)

Information related to the measures that were discussed on this call is highlighted.

LEGEND: Y= Yes; N = No; A = Abstain; C = Completely; P = Partially; M = Minimally; N = Not at all

Cardiac, Appendectomy and Pancreatic Resection

0127 Preoperative beta blockade 29
0284 Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period 30
0365 Pancreatic resection mortality rate (IQI 9) (risk adjusted) 32
0366 Pancreatic resection volume (IQI 2) 33
1519 Statin therapy at discharge after lower extremity bypass (LEB) 35

Cardiac and Vascular

0357 Abdominal aortic aneurysm (AAA) repair volume (IQI 4) 36
0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11) 37
1523 In-hospital mortality following elective open repair of small AAAs 40
1534 In-hospital mortality following elective EVAR of small AAAs 41

General, Ophthalmology, Orthopedics and Pediatrics

0352 Failure to rescue in-hospital mortality (risk adjusted) 43
0353 Failure to rescue 30-day mortality (risk adjusted) 45
0351 Death among surgical inpatients with serious, treatable complications (PSI 4) 47
1536 Cataracts: Improvement in patient's visual function within 90 days following cataract surgery 48

General, Prophylaxis and Wound Dehiscence

0528 Prophylactic antibiotic selection for surgical patients 55
0126 Selection of antibiotic prophylaxis for cardiac surgery patients 55
0128 Duration of antibiotic prophylaxis for cardiac surgery patients 57
0125 Timing of antibiotic prophylaxis for cardiac surgery patients 58
0527 Prophylactic antibiotic received within 1 hour prior to surgical incision 59
0529 Prophylactic antibiotics discontinued within 24 hours after surgery end time 60

0127 Preoperative beta blockade
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who received beta blockers within 24 hours preceding surgery. Numerator Statement: Number of patients undergoing isolated CABG who received beta blockers within 24 hours preceding surgery Denominator Statement: All patients undergoing isolated CABG Exclusions: Cases are removed from the denominator if preoperative beta blocker was contraindicated. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians: Group, Clinicians: Individual, Facility/ Agency, Population: Community, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States Type of Measure: Process Data Source: Registry data Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Criteria for Endorsement Met: Y-21; N-0; A-0 Rationale: There was strong evidence to support this measure and it demonstrated a clear performance gap.
If applicable, Conditions/Questions for Developer: Developer Response: Steering Committee Follow-Up: This was one of four related measures considered for potential harmonization. The four included: e*ndorsed measure 0235*: Pre-op beta blocker in patient with isolated CABG; m*aintenance measure 0127*: Pre-operative beta blockade; e*ndorsed measure 0236*: Pre-op beta blocker in patient with isolated CABG; and m*aintenance measure 0284*: Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period. Discussion of the four measures is included here. The Steering Committee stated that measure 0284 is unique and harmonization will not be pursued at this time since it applies beyond CABG to other surgical patients receiving beta blocker therapy prior to admission. The Steering Committee identified measures 0235 and 0127 as similar and should be combined into a single measure. The measure developer confirmed that the measures are similar with the exception of the level of measurement and indicated that they would combine them into a single measure from which information at the individual or facility level can be drawn. The developer also noted that measures 0235 and 0236 are identical in their specifications and are two components of a Physician Quality Reporting System (PQRS) measure. The Steering Committee stated that they considered the measures derived from registry data (measures 0235 and 0127) and administrative claims data (measure 0236) to be similar but not competing since the two data sources result in capture of information about different populations; both measures are useful and valid.
1. Importance to Measure and Report: Y-21, N-0; A-0 (1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: There was strong evidence to support this measure and it demonstrated a performance gap of 86.6 percent.
2. Scientific Acceptability of Measure Properties: C-16; P-5; M-0; N-0 (2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f.

0127 Preoperative beta blockade
Meaningful differences; 2g. Comparability; 2h. Disparities) Rationale: Questions regarding number of patients excluded by the measure and concerns over contraindications to preoperative beta blockers were satisfactorily addressed by additional information from the developer. Evidence in support of the measure demonstrates its value.
3. Usability: C-17; P-4; M-0; N-0 (3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures) Rationale: The measure as specified is usable; there may be opportunities for harmonization with other beta blocker measures. At the request of the Committee, the developer combined measures 0127 and 0235 into a single measure.
4. Feasibility: C-17; P-4; M-0; N-0 (4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented) Rationale: The measure is meaningful for public reporting and quality improvement; though, the cost of data extraction is of some concern.

0284 Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period. To be in the denominator, the patient must be on a beta-blocker prior to arrival. The case is excluded if the patient is not on a beta-blocker prior to arrival, as described below in 2a4. Numerator Statement: Surgery patients on beta blocker therapy prior to admission who receive a beta blocker during the perioperative period Denominator Statement: All surgery patients on beta blocker therapy prior to arrival Data Element Data Collection Question: Is there documentation that the patient was on a daily beta-blocker therapy prior to arrival? Yes/No Notes for Abstraction: • If there is documentation that the beta-blocker was taken daily at "home" or is a "current" medication, select "Yes". • If a beta-blocker is listed as a home medication without designation of how often or when it is taken, select "Yes". • If there is documentation that the beta-blocker is a home/current medication and additional documentation indicates the beta-blocker was not taken daily, e.g., the medication reconciliation form lists a beta-blocker as a home/current medication, but documentation in the nurses notes state "patient denies taking beta-blocker every day", select "No". • If there is documentation that the beta-blocker is on a schedule other than daily, select "No". • If there is documentation that the beta-blocker was given on a "prn" basis for cardiac or non-cardiac reasons, select "No". Exclusions: • Patients less than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients who expired during the perioperative period • Pregnant patients taking a beta-blocker prior to arrival • Patients with a documented Reason for Not Administering Beta-Blocker-Perioperative • Patients with Ventricular Assist Devices or Heart Transplantation Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/ Agency, Population: National, Population: Regional Type of Measure: Process Data Source: Electronic administrative data/ claims, Paper medical record/ flow-sheet Vendor tools (electronic) or CART. CART is available for download free at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093 Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Blvd, Mail Stop S3-02-01 | Baltimore | Maryland | 21244
Steering Committee Recommendation for Endorsement: Conditional Criteria for Endorsement met: Y- 19; N -2; A-0 Rationale: The measure is meaningful for public reporting and quality improvement.
If applicable, Conditions/Questions for Developer: 1. 2a.4 Denominator Statement: Include definition of 'prior to arrival' and clarify the expected beta blocker dosing during the perioperative period (e.g., beyond homeopathic dose) – should be done to a specific parameter; i.e., hear rate or blood pressure. 2. 2a.9 Denominator Exclusions: Exclusion for laparoscopy verbally reported as removed effective January 1, 2012. Please confirm. 3. 2a.9 Denominator Exclusions: Consider exclusions for patients on beta blockers for non-cardiac reasons.

0284 Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period

Developer Response:

1. To be in the measure denominator, the patient must be on a beta-blocker prior to arrival. The data collection question and relevant notes for abstraction for the data element Beta-Blocker Current Medication are listed below. The case is excluded if the answer to this data element is "no." We do NOT use specific parameters for dosing because this measure was designed to ensure that patients on beta-blocker therapy at home have continued therapy. It is not evaluating whether the dose is therapeutic. There is simply no way to define a "homeopathic dose" for the purposes of data collection.
   Suggested Data Collection Question: Is there documentation that the patient was on a daily beta-blocker therapy prior to arrival? Yes/No
   Notes for Abstraction:
   • If there is documentation that the beta-blocker was taken daily at "home" or is a "current" medication, select "Yes".
   • If a beta-blocker is listed as a home medication without designation of how often or when it is taken, select "Yes".
   • If there is documentation that the beta-blocker is a home/current medication and additional documentation indicates the beta-blocker was not taken daily, e.g., the medication reconciliation form lists a beta-blocker as a home/current medication, but documentation in the nurses notes state "patient denies taking beta-blocker every day", select "No".
   • If there is documentation that the beta-blocker is on a schedule other than daily, select "No".
   • If there is documentation that the beta-blocker was given on a "prn" basis for cardiac or non-cardiac reasons, select "No".
2. The data element Laparoscope has been removed from all SCIP measures for January 1, 2012 discharges. Major surgeries performed laparoscopically may be included if their ICD-9 Principal Procedure Code is included in the denominator (Table 5.10).
   Those exclusions are accounted for in the Notes for Abstraction for the data element Beta-Blocker Current Medication. See above. The abstractor is instructed to answer "no" to this data element which excludes them from the measure.

Steering Committee Follow-up:

1. 2a.4 Denominator Statement: Further define "prior to arrival" to specify "all surgery patients on daily beta blocker therapy prior to arrival".
2. This was one of four related measures considered for potential harmonization. The four included: e*ndorsed measure 0235*: Pre-op beta blocker in patient with isolated CABG; m*aintenance measure 0127*: Pre-operative beta blockade; e*ndorsed measure 0236*: Pre-op beta blocker in patient with isolated CABG; and m*aintenance measure 0284*: Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period. Discussion of the four measures is included here. The Steering Committee stated that measure 0284 is unique and harmonization will not be pursued at this time since it applies beyond CABG to other surgical patients receiving beta blocker therapy prior to admission. The Steering Committee identified measures 0235 and 0127 as similar and should be combined into a single measure. The measure developer confirmed that the measures are similar with the exception of the level of measurement and indicated that they would combine them into a single measure from which information at the individual or facility level can be drawn. The developer also noted that measures 0235 and 0236 are identical in their specifications and are two components of a Physician Quality Reporting System (PQRS) measure. The Steering Committee stated that they considered the measures derived from registry data (measures 0235 and 0127) and administrative claims data (measure 0236) to be similar but not competing since the two data sources result in capture of information about different populations; both measures are useful and valid.

1. Importance to Measure and Report: Y-21; N-0
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: Performance is above 90 percent; however, discontinuation of beta blockers in the post-op period has the potential to affect large numbers and for that reason remains a concern. It was noted that beta blockers had to be titrated to a certain heart rate for them to provide a beneficial result to the patient.

2. Scientific Acceptability of Measure Properties: C-10; P-10; M-1; N-0
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The evidence, construction and testing of the measure meets requirements. The Committee questioned the period of time that was considered as part of the perioperative period and why laparoscopic procedures were included in the exclusions and set conditions related to these concerns.

3. Usability: C-12; P-9; M-0; N-0
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: The measure is meaningful for public reporting and quality improvement.

0284 Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period

4. Feasibility: C-12; P-9; M-0; N-0
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: The required data is readily available; the Committee questioned whether the measure would continue to rely on paper records. It is not included in the list for electronic health records (EHR) at present; however, the developer was encouraged to consider capturing titration to heart rate when it does move to EHR. They were also requested that the bradycardia exclusion be included.

0365 Pancreatic resection mortality rate (IQI 9) (risk adjusted)

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percentage of adult hospital discharges with procedure code of pancreatic resection with an in-hospital death, stratified by benign and malignant disease.
Numerator Statement: Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.
Denominator Statement: Hospital discharges, age 18 years and older, with ICD-9-CM pancreatic resection code procedure and a diagnosis code of pancreatic cancer in any field, stratified by benign and malignant disease.
Exclusions: Exclude cases:
• missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing)
• transferring to another short-term hospital (DISP=2)
• MDC 14 (pregnancy, childbirth, and puerperium)
ICD-9-CM codes:
577.0
Acute pancreatitis
Adjustment/Stratification: Risk adjustment method widely or commercially available The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, age in years (in 5-year age groups), All Patient Refined-Diagnosis Related Group (APR-DRG) and APR-DRG risk-of-mortality subclass. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate/User has the optin to stratify by gender, age (5-year age groups), race/ ethnicity, primary payer, and custom stratifiers./ Malignant Disease:
ICD-9-CM pancreatic cancer diagnosis codes:
1520
MALIGNANT NEOPL DUODENUM
1561
MAL NEO EXTRAHEPAT DUCTS
1562
MAL NEO AMPULLA OF VATER
1570
MAL NEO PANCREAS HEAD
1571
MAL NEO PANCREAS BODY
1572
MAL NEO PANCREAS TAIL
1573
MAL NEO PANCREATIC DUCT
1574
MAL NEO ISLET LANGERHANS
1578
MALIG NEO PANCREAS NEC
1579
MALIG NEO PANCREAS NOS
Benign Disease:
All other cases
Level of Analysis: Facility/ Agency
Type of Measure: Outcome
Data Source: Electronic administrative data/ claims

0365 Pancreatic resection mortality rate (IQI 9) (risk adjusted)

Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

Steering Committee Recommendation for Endorsement: Pending final recommendation.
Rationale: The measure is based on strong evidence and evaluation criteria are met. With stratification that includes benign and malignant disease and both endovascular and open repair, its usefulness is enhanced.

If applicable, Conditions/Questions for Developer:
Overarching comment: Please provide feasibility of reporting mortality stratified by institutional volume (e.g., high, medium, low volume with parameters for each) rather than having rate and mortality separated.

1. De.2 Ensure measure description accurately captures measure focus.
2. 2a.8 Denominator Details: Do not limit to pancreatic resection for cancer - could stratify by malignant and benign. Also, consider providing volume as well as rate.
3. 2a.9 Denominator Exclusions: Please remove 'transferring to another short-term hospital (DISP=2)' from the exclusions.
4. 2a.9 Denominator Exclusions: Add exclusion for pancreatitis.

Measures 0365 and 0366 should be fully harmonized in order to properly report as a pair. This will involve including all pancreatic disease in both the numerator and denominator of both measures. They can then be stratified by malignant and benign disease.
Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization.
Developer Response:

1. AHRQ agrees to revise the measure description to more accurately capture the measure focus
2. AHRQ agrees to harmonize the mortality and volume indicator denominators to include benign disease in the mortality measure. Note that the mortality and volume indicator (0366) are designated as paired measures
3. This request is problematic for a few reasons. First, the outcome of interest (in-hospital mortality) is not observed for these cases. Second, it is possible that a single case may be counted twice (once for the transferring hospital, once for the receiving hospital). Third, removing this exclusion would require using data that linked patients across hospitalizations (in order to avoid the issues #1 and #2), which is not readily available for individual hospitals across institutions. Therefore, we respectively defer a definitive response to this request pending the routine availability of linked hospitalization data, or at a minimum additional analysis using such data of the potential impact of removing the exclusion.
4. AHRQ agrees to add an exclusion for pancreatitis

Steering Committee Follow-up:

1. The Steering Committee expressed their concern about transferred patients being excluded from the measure. AHRQ responded that the number is less that 1 percent and the majority is transfer of convenience for the patient. The Steering Committee agreed that the response from the developer was adequate.
2. This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0365*: Pancreatic resection mortality rate (IQI 9); m*aintenance measure 0366*: Pancreatic resection volume (IQI 2); and e*ndorsed measure 0738*: Survival predictor for pancreatic resection surgery. Discussion of the three measures is included here. The Steering Committee requested the measure developer continue its expedited work to combine measures 0365 and 0366, including benign disease. After some discussion, the Members agreed that because measures 0365 and 0366 are risk adjusted and measure 0738 is not, that recommendations related to harmonization of numerator and denominator should not be advanced at this time.

1. Importance to Measure and Report:
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The evidence supports the measure's focus on pancreatic resections for cancer and while it is a low-volume procedure, mortality rates are high and merit tracking.

2. Scientific Acceptability of Measure Properties:
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The measure was considered scientifically acceptable. The Committee discussed the importance of separate measures focusing on a pancreatic resection for cancer and a pancreatic resection for benign disease and determined that both could be captured in a single measure that is stratified to report each.

3. Usability:
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: This measure is in use in multiple states and healthcare systems and is reported on HCUPnet as well as used in the MONAHRQ system that is provided for public reporting and quality improvement.

4. Feasibility:
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: This measure was considered feasible; data is obtained from electronic claims and chart abstraction.

0366 Pancreatic resection volume (IQI 2)

0366 Pancreatic resection volume (IQI 2)

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Number of adult hospital discharges with procedure for pancreatic resection, stratified by benign and malignant disease.
Numerator Statement: Hospital discharges, age 18 years and older, with ICD-9-CM codes for pancreatic resection procedure, stratified by benign and malignant disease.
Denominator Statement: Not applicable
Exclusions: Not applicable
Adjustment/Stratification: No risk adjustment necessary/.
Malignant Disease:
ICD-9-CM pancreatic cancer diagnosis codes:
1520
MALIGNANT NEOPL DUODENUM
1561
MAL NEO EXTRAHEPAT DUCTS
1562
MAL NEO AMPULLA OF VATER
1570
MAL NEO PANCREAS HEAD
1571
MAL NEO PANCREAS BODY
1572
MAL NEO PANCREAS TAIL
1573
MAL NEO PANCREATIC DUCT
1574
MAL NEO ISLET LANGERHANS
1578
MALIG NEO PANCREAS NEC
1579
MALIG NEO PANCREAS NOS
Benign Disease:
All other cases
Level of Analysis: Facility/ Agency
Type of Measure: Structure/management
Data Source: Electronic administrative data/ claims
Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

Steering Committee Recommendation for Endorsement: Pending final recommendation.
Rationale: The measure was considered important and cited strong evidence. With reporting as a pair with 0365 and stratification that includes benign and malignant disease and both endovascular and open repair, its usefulness is enhanced.

If applicable, Conditions/Questions for Developer:

1. De.2 Ensure measure description accurately captures measure focus.
2. 2a.3 Numerator Details: Partial resections and partial operations should be included in 0366,
3. 2a.8 Denominator Details: Do not limit to pancreatic resection for cancer.
4. 2a.9 Denominator Exclusions: Please remove 'transferring to another short-term hospital (DISP=2)' from the exclusions.
5. 2a.9 Denominator Exclusions: Add exclusion for pancreatitis.
6. 2b.3 and 2.c.3 Testing Results: Text speaks to esophageal resection. Please provide correct information and advise if there are other such errors within the submission that have required correction.

Measures 0365 and 0366 should be fully harmonized in order to properly report as a pair. This will involve including all pancreatic disease in both the numerator and denominator of both measures. They can then be stratified by malignant and benign disease.
Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization.
Developer Response:

1. AHRQ agrees to revise the measure description to more accurately capture the measure focus
2. AHRQ agrees to include partial resections and partial operations
3. The volume measure contains no such exclusion. However, in general AHRQ agrees to harmonize the mortality and volume indicator denominators to include benign disease in the mortality measure. Note that the mortality (0365) and volume indicator are designated as paired measures.
4. The volume measure contains no such exclusion; however, see note above regarding harmonization
5. The volume measure contains no such exclusion; however, see note above regarding harmonization
6. Such erroneous references shall be corrected

0366 Pancreatic resection volume (IQI 2)

Steering Committee Follow-up:

1. The Steering Committee agreed that the response from the developer was adequate.
2. This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0365*: Pancreatic resection mortality rate (IQI 9); m*aintenance measure 0366*: Pancreatic resection volume (IQI 2); and e*ndorsed measure 0738*: Survival predictor for pancreatic resection surgery. Discussion of the three measures is included here. The Steering Committee requested the measure developer continue its expedited work to combine measures 0365 and 0366, including benign disease. After some discussion, the Members agreed that because measures 0365 and 0366 are risk adjusted and measure 0738 is not, that recommendations related to harmonization of numerator and denominator should not be advanced at this time.

1. Importance to Measure and Report:
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The evidence supports the measure's focus on pancreatic resections for cancer and while it is a low-volume procedure, the impact in terms of mortality is important to track and report.

2. Scientific Acceptability of Measure Properties:
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The measure was considered scientifically acceptable. The Committee discussed the importance of separate measures focusing on a pancreatic resection for cancer and a pancreatic resection for benign disease and determined that both could be captured in a single measure to be stratified to report each.

3. Usability:
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: This measure is in use in multiple states and healthcare systems and is reported on HCUPnet as well as used in the MONAHRQ system that is provided for public reporting and quality improvement.

4. Feasibility:
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: This measure was considered feasible; data is obtained from electronic claims and chart abstraction.

1519 Statin therapy at discharge after lower extremity bypass (LEB)

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percentage of patients aged 18 years and older undergoing infrainguinal lower extremity bypass who are prescribed a statin medication at discharge. This measure is proposed for both hospitals and individual providers.
Numerator Statement: Patients undergoing infrainguinal lower extremity bypass who are prescribed a statin medication at discharge.
Denominator Statement: All patients aged 18 years and older undergoing lower extremity bypass as defined above who are discharged alive, excluding those patients who are intolerant to statins.
Exclusions: Chart documentation that patient was not an eligible candidate for statin therapy due to known drug intolerance, or patient died before discharge.
Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure.
Level of Analysis: Can be measured at all levels, Clinicians: Group, Clinicians: Individual, Facility/ Agency
Type of Measure: Process
Data Source: Registry data
Measure Steward: Society for Vascular Surgery | 633 N. Saint Clair St., 22nd Floor | Chicago | Illinois | 60611

Steering Committee Recommendation for Endorsement: Conditional Criteria for Endorsement met: Y-19; N-0 ; A-1
Rationale: The focus of the measure is important and while the evidence cited speaks to statin use for LDL control, use of statins without reference to LDL is the current trend and, per the developer, it is expected that it will be supported in future guidelines.

If applicable, Conditions/Questions for Developer:

1. 2a.2 Numerator Time Window: Timeframe lacks precision. Please address.
2. 2a.7 Denominator Time Window: Timeframe lacks precision. Please address.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization
Developer Response:

We have modified the form time window for all SVS measures as follows:
Since hospitals have sufficient annual volume to generate accurate reporting levels, these are proposed for reporting every 12 months for hospital. Since surgeons have lower individual volume, we recommend annual reporting of the last 50 consecutive procedures, which may span more than one year, with suppression if < 10 procedures (i.e., reported as too low volume to report).

Steering Committee Follow-up:

1. The Steering Committee agreed that the response from the developer was adequate.
2. This was one of two related measures considered for potential harmonization. The two included: m*aintenance measure 0118*:

1519 Statin therapy at discharge after lower extremity bypass (LEB)
Anti-lipid treatment discharge and n*ew candidate measure 1519*: Statin therapy at discharge after lower extremity bypass (LEB). Discussion of the two measures is included here. The Steering Committee stated that measures 0118 and 1519 were related in terms of therapy used; however, they involve different procedures and different patient populations and are reasonably aligned thus no further action was recommended.
1. Importance to Measure and Report: Y-19; N-1 (1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: The measure is based on a guideline that focuses on statin use for LDL control while the measure focuses on statin use regardless of the LDL control; however, the current trend in practice to use of statin without reference to LDL. Performance rates have improved from 41 percent to 79 percent, still short of the 90 percent goal.
2. Scientific Acceptability of Measure Properties: C-8; P-11; M-1; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee noted the numerator and denominator timeframes lacked precision. The developer revised the timeframes to 12 months.
3. Usability: C-14; P-5; M-1; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure, which relies on registry data, was considered usable.
4. Feasibility: C-13; P-7; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The feasibility of implementation was questioned since the data comes from a registry. For registry participants the measure is quite feasible; a non-registry participant would have to collect manually or develop an electronic system.

0357 Abdominal aortic aneurysm (AAA) repair volume (IQI 4)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Count of adult hospital discharges in a one year time period with a procedure code of AAA repair. Numerator Statement: Discharges, age 18 years and older, with an abdominal aortic aneurysm (AAA) repair procedure and a primary or secondary diagnosis of AAA. Denominator Statement: Not applicable. Exclusions: Not applicable. Adjustment/Stratification: no risk adjustment necessary/ The stratification of the denominator for open vs. endovascular and ruptured vs. unruptured involve the following codes in the denominator specification: AAA Repair (ICD-9-CM Procedure Codes: OPEN ; ‘3834´ = ´1´ /* AORTA RESECTION & ANAST * ´3844´ = ´1´ /* RESECT ABDM AORTA W REPL */ ´3864´ = ´1´ /* EXCISION OF AORTA */ /* ENDOVASCULAR */; ´3971´ = ´1´ /* ENDO IMPL GRFT ABD AORTA */ /* Include Only: AAA */ /* ICD-9-CM Diagnosis Codes: */ /* RUPTURED */; ´4413 ´ = ´1´ /* RUPT ABD AORTIC ANEURYSM */ /* UNRUPTURED */; ´4414 ´ = ´1´ /* ABDOM AORTIC ANEURYSM */ Level of Analysis: Facility/ Agency Type of Measure: Structure/management Data Source: Electronic administrative data/ claims Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850
Steering Committee Recommendation for Endorsement: Conditional *No did not pass Importance to Measure and Report Y-10; N-11*. Pending final recommendation. Rationale: The measure initially did not pass the importance criterion; however, the Committee asked for additional information. With that information, the Committee reconsidered the measure. Final action is pending receipt and consideration of a measure that combines 0357 and 0359.
If applicable, Conditions/Questions for Developer: 1. Overarching Comment: The Steering Committee vote regarding the NQF evaluation criterion of “Importance” was split with 10

0357 Abdominal aortic aneurysm (AAA) repair volume (IQI 4)

voting yes and 11 voting no and a number of members noted the measure should only be reported with the related mortality measure. The developer will want to review the measure in its entirety in this light and provide whatever additional information/specification including value as a paired measure with mortality that it believes appropriate. Should specifications change, it is important to provide information regarding testing with the changes.

2. 2a. 11 Stratification Details/Variables: Measure should stratify the measure by endovascular and open repairs.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization. As discussed the developer should meet with SVS to harmonize or blend measures concerning AAA

Developer Response:

1. AHRQ agrees to stratify the measure by endovascular and open repairs, but notes that additional methodological development will be required to ensure the measures have adequate reliability.
2. AHRQ noted at the meeting that the volume and mortality measures are to be reported as paired measures though some users may not have the information to report both.

Steering Committee Follow-Up:

The Steering Committee was concerned about volume being reported as a singular measure.

1. The Steering Committee requested information regarding needed methodological changes for the measure based on the endovascular and open repair stratification and will further consider the measure with that information. AHRQ will also further clarify the risk adjustment model.
2. The Steering Committee was concerned that the developer had not addressed creating a composite of the volume (0357) and morbidity measure (0359). Members noted that the developer had agreed to stratify the measure by endovascular and open repairs but that the measure did have reliability testing for the requested change. The Steering Committee asked for additional information about how the developer would redevelop their risk stratification model. On the August 3 conference call, the developer discussed the measure together with Measure 0359 and highlighted preliminary results of revising the measure with four strata. The developer is continuing to explore how the outcomes information can be put back together with volume for the requested composite/combined measures. The measure will move forward as a composite rather than as two measures.

1. Importance to Measure and Report: Y-10; N-11

(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)

Rationale: The measure would provide key information to the public about AAA mortality, but does not provide separate information on EVARs and open repairs. The vote is reflective of the debate related to the value and implications of separately reporting open and endovascular repairs. AHRQ representatives indicated that the stratification is a component of the current software; however the Committee would like to see this specifically reflected in the specifications of the measure. AHRQ representatives indicated that a separate risk adjustment model could be developed for open and endovascular procedures with both ruptured and unruptured aneurysms. The majority of AAA repairs are done endovascularly and open repairs have become more complicated.

2. Scientific Acceptability of Measure Properties:

(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)

Rationale:

3. Usability:

(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)

Rationale:

4. Feasibility:

(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)

Rationale:

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percent of adult hosptial discharges in a one-year time period with a procedure code of AAA repair and a diagnosis of AAA with an in-hospital death.

Numerator Statement: Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

Denominator Statement: Discharges, age 18 years and older, with ICD-9-CM AAA repair code procedure and a diagnosis of AAA in any field. The denominator may be stratified by open vs. endovascular procedures, and ruptured vs. un-ruptured AAA.

Exclusions: Exclude cases:

• missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing)
• transferring to another short-term hospital (DISP=2)
• MDC 14 (pregnancy, childbirth, and puerperium)

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)

Adjustment/Stratification: risk adjustment method widely or commercially available The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, age in years (in 5-year age groups), All Patient Refined-Diagnosis Related Group (APR-DRG) and APR-DRG risk-of-mortality subclass. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate.
Risk adjustment factors: sex
age 18-24; age 25-29; age 30-34; age 35-39; age 40-44; age 45-49; age 50-54; age 55-59; age 60-64; age 65-69; age 70-74; age 75-79; age 80-84; age 85+
ADRG 1731 (other vascular procedures-minor)
ADRG 1732 (other vascular procedures-moderate)
ADRG 1733 (other vascular procedures-major)
ADRG 1734 (other vascular procedures-extreme)
ADRG 1691 (major thoracic and abdominal vascular procedures-minor)
ADRG 1692 (major thoracic and abdominal vascular procedures-moderate)
ADRG 1693 (major thoracic and abdominal vascular procedures-major)
ADRG 1694 (major thoracic and abdominal vascular procedures-extreme
MDC 5 (Cardiovascular)
Transfer-in status
Gender, age (5-year age groups), race/ ethnicity, primary payer, custom
The stratification of the denominator for open vs. endovascular and ruptured vs. unruptured involves the following codes in the denominator specification:
AAA Repair
ICD-9-CM Procedure Codes:
OPEN
´3834´ = ´1´ /* AORTA RESECTION & ANAST */
´3844´ = ´1´ /* RESECT ABDM AORTA W REPL */
´3864´ = ´1´ /* EXCISION OF AORTA */
ENDOVASCULAR
´3971´ = ´1´ /* ENDO IMPL GRFT ABD AORTA */
AAA
ICD-9-CM Diagnosis Codes:
RUPTURED
´4413´ = ´1´ /* RUPT ABD AORTIC ANEURYSM */
UNRUPTURED
´4414´ = ´1´ /* ABDOM AORTIC ANEURYSM */
Level of Analysis: Facility/ Agency
Type of Measure: Outcome
Data Source: Electronic administrative data/ claims
Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

Steering Committee Recommendation for Endorsement: Pending final recommendation.
Rationale: The measure initially did not pass the importance criterion; however, the Steering Committee engaged in extensive discussion of the volume and mortality measures as noted in review of 0357 above. The Committee asked for additional information and with that information, reconsidered the measure. Final action is pending receipt and consideration of a measure that combines 0357 and 0359.

If applicable, Conditions/Questions for Developer:

1. 2a.11 Stratification Details/Variables: a) Stratify the measure by endovascular and open repairs as well as emergency vs. elective repair; b) specify the risk stratification model used; 3) identify settings where the model has been validated in addition to the training data set in which it was developed or provide other supporting data as to its validity.
2. 2b.3 Testing Results: Please provide information about signal to noise ratio.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization. As discussed, the developer should meet with SVS to harmonize or blend measures concerning AAA.
Developer Response:

1. a) As noted above, AHRQ agrees to stratify the measure by endovascular and open repairs; in addition, AHRQ agrees to stratify by ruptured vs. un-ruptured aneurysm (which is what we assume you mean by emergency vs. elective repair); but AHRQ again notes that additional methodological development will be required to ensure the measures have adequate

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)

reliability; b) the risk stratification model is specified below; c) the model has been validated on the State Inpatient Databases (SID), which consists of hospital discharge data from 40 states (constituting about 90% of hospital discharges in the U.S) for the years 2001-2008

2. The signal to noise ratio is the ratio of the between hospital variance (signal) to the within hospital variance (noise). The formula is signal / (signal + noise). The ratio itself is only a diagnostic for the degree of variance in the risk-adjusted rate systematically associated with the provider. Therefore, what matters is the magnitude of the variance in the "smoothed" rate (that is, the variance in the risk-adjusted rate after the application of the univariate shrinkage estimator based on the signal ratio). What the data demonstrate is systematic variation in the provider level rate of 2.6 to 7.6 per 100 from the 5th to 95th percentile after a signal ratio of 0.307 is applied as the shrinkage estimator (that is, after accounting for variation due to random factors).

Table 3. Risk Adjustment Coefficients for IQI #11— AAA Repair Mortality

Parameter	Label	DF	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
Intercept		1	-6.6044	0.1713	1486.04	0.0000
Sex	Female	1	0.4539	0.0747	36.95	0.0000
Age	65 to 74	1	0.4879	0.1072	20.72	0.0000
Age	75 to 79	1	0.8737	0.1201	52.97	0.0000
Age	80 to 84	1	1.1092	0.1200	85.50	0.0000
Age	85+	1	1.4440	0.1359	112.97	0.0000
APR-DRG	'1691' to '1692'	1	1.6789	0.1623	107.05	0.0000
APR-DRG	'1693' to '1694'	1	3.9127	0.1523	659.72	0.0000
APR-DRG	'1733' to '1734'	1	3.1568	0.1676	354.55	0.0000
MDC	5	1	2.6400	0.1483	316.85	0.0000
MDC	Other	1	2.9536	0.2252	172.05	0.0000
RUPTURED		1	2.0565	0.0808	647.42	0.0000

c-statistic 0.937

Note: The APR-DRG consists of the DRG and the risk-of-mortality subclass (minor (1), moderate (2), major (3) and extreme (4)).

Steering Committee Follow-Up:

1. The Steering Committee requested information regarding needed methodological changes for the measure based on the endovascular and open repair stratification and will further review the measure with that information. AHRQ will also further clarify the risk adjustment model.
2. The Steering Committee was concerned that the developer had not addressed creating a composite of the volume (0357) and morbidity measure (0359). It noted that the developer had agreed to stratify the measure by endovascular and open repairs but that the measure did not have any reliability testing for the requested change. The Steering Committee asked for additional information about how the developer would redevelop their risk stratification model. On the August 3 conference call, the developer highlighted preliminary results about the measure's stratification. A Steering Committee member questioned whether the measure was useful for endovascular un-ruptured repairs, if the difference between the best performing hospitals was 0.00 percent and worst performing hospitals was 0.75 percent repairs, which was considered minimal. Additionally, it was noted that open ruptured repairs also showed little difference between the best performing hospitals at 24.74 percent and the worst performing hospitals at 26.53 percent. The Steering Committee resolved that while some of the collected data may show small differences, the measure would also show areas of variation. The developer further explained that they could use the data to identify hospitals that performed at better or worse than average but for other subsets.

On the August 3 conference call, the developer highlighted preliminary results of revising the measure with four strata – ruptured vs. unruptured; and open vs. endovascular repair using available data from a period of years using data from 1700 hospitals, of which 500 do endovascular repair of ruptured aneurysms. Based on the preliminary data of that stratification, a number of issues were discussed including whether the measure was useful for endovascular un-ruptured repairs, given minimal differences between the best performing hospitals (0.00 percent)and worst performing hospitals (0.75 percent);small differences in open ruptured repairs between hospitals that performed better than expected (24.74percent) and those that performed worse than expected (26.53 percent); risk stratification approaches using inpatient diagnoses vs. clinical data or outpatient diagnoses. The Steering Committee opined that while some of the collected data may show small differences, the breakdown can show areas of variation that warrant measurement and follow up. The developer is continuing to explore how the outcomes information can be put back together with volume for the requested composite/combined measures.

1. Importance to Measure and Report: Y-10; N-11

0359 Abdominal aortic artery (AAA) repair mortality rate (IQI 11)
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: The measure would provide key information to the public about AAA volume, but does not provide separate information on EVARs and open repairs. The majority of AAA repairs are done endovascularly and open repairs have become more complicated.
2. Scientific Acceptability of Measure Properties: *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale:
3. Usability: *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale:
4. Feasibility: *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale:

1523 In-hospital mortality following elective open repair of small AAAs
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of aymptomatic patients undergoing open repair of small abdominal aortic aneurysms (AAA)who die while in hospital. This measure is proposed for both hospitals and individual providers. Numerator Statement: Mortality following elective open repair of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs Denominator Statement: All elective open repairs of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs Exclusions: > 6 cm minor diameter - men > 5.5 cm minor diameter - women Symptomatic AAAs that required urgent/emergent (non-elective) repair Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Can be measured at all levels, Clinicians: Group, Clinicians: Individual, Facility/ Agency Type of Measure: Outcome Data Source: Registry data Measure Steward: Society for Vascular Surgery | 633 N. St. Clair, 24th floor | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Conditional Y-9; N-11; A-1 Pending final recommendation. Rationale: The evidence supports the measure's focus on small AAAs repairs and it provides important outcome data; however, the Committee had a number of questions for which it requested developer response before further consideration of the measure.
If applicable, Conditions/Questions for Developer: Overall comment: Based on the narrow margin of the Steering Committee vote related to having met criteria for endorsement the measure will be reconsidered with the response to the questions and conditions below. 1. De2. Brief Description and 2a.1 Numerator Statement: Suggested addition of 30-day mortality with in-hospital mortality. Also, please clarify whether aneurysm size can be collected using administrative (i.e., is widely available outside the Northern New England registry), or available clinical data and the added burden of such collection. 2. 2a. Measure Specifications: Provide a timeframe for availability of newly created CPT2 codes to make this a universally applicable measure. 3. 2a.3 Numerator Details: Reword the numerator details here and throughout where registry is specified to be clear that a specific registry (i.e., SVS, VSGNE) is not required to collect the data. 4. 2b Reliability Testing and 2c Validity Testing: Advise what testing will be needed and completed for the suggested modification to 30 day mortality? 5. 2d. Exclusions: Provide reconcile sample size and data for what is being measured. Also reconcile aneurysm size in the population of interest and the sizes specified throughout. 6. 2h. Disparities in Care: Provide information about disparities or plans to be able to provide data. 7. 3a.2 Use in a Public Reporting Initiative: Please provide plans for public reporting (within 3 years). Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization Developer Response: 1. We suggest in-hospital instead of 30-day mortality for several reasons. We have previously studied mortality within the first year after open AAA repair. In-hospital mortality was 2.1% and 30-day mortality was 2.3% in VSGNE, since almost every patient who died within 30 days was never discharged. [Predicting 1-year mortality after elective abdominal aortic aneurysm repair. Beck et al, J Vasc Surg. 2009.49:838-44]. Further, in-hospital mortality is more easily obtained and audited, and is immediately available at the time of discharge. Finally, there is lower cost for obtaining in-hospital results, since subsequent patient contact after discharge is not necessary. We believe that these advantages make in-hospital mortality a more

1523 In-hospital mortality following elective open repair of small AAAs

appropriate measure and have not changed this portion of the application. AAA size is readily available in the medical record, and is tracked not only in VSGNE, but the SVS VQI registry, which now comprises more than 80 centers in 30 states across the U. S., and is expected to comprise all states by 2012. The SVS VQI is the de facto national registry for vascular surgery. While AAA size cannot currently be collected using administrative data, we expect that the great majority of vascular surgeons in the U.S. will be participating in SVS VQI by 2012.

2. It is our plan to request CPT2 codes to allow coding of AAA diameter by claims data. These codes will be reviewed by the CPT Performance Measures Advisory Group's next meeting, which is scheduled for July 18-19, 2011. The CPT Editorial Panel will then have to approve the codes before they can appear in any CPT publication. The Editorial Panel will meet October 13-15, 2011.
3. Numerator and denominator have been edited to clearly state than ANY registry tracking the appropriate variables can be used for reporting all of the current measures being proposed by SVS.
4. As stated above, we have already compared in-hospital and 30-day mortality in 748 patients undergoing open elective AAA repair in VSGNE and found no advantage to using 30-day mortality, which is more difficult and more expensive to collect.
5. This section has been expanded. Data are provided for large and small AAAs, showing difference in operative mortality, emphasizing the reason for including only SMALL dia AAAs in this measure. Patients with larger diameter AAAs cannot be included without complex risk adjusting that is not available. However, data indicate that MANY small AAAs are being electively repaired, and it is in this population that a quality measure is needed. Most patients with much larger AAAs always warrant treatment, since the AAA rupture risk is so high if not treated.
6. Disparities have not been reported. As additional data are acquired from the SVS registry across a much larger and varied population, future disparities may be discovered.
7. SVS intends to request that all of these measures be included in PQRS, and expects CMS to begin publishing PQRS data in the near future. Independent of this, SVS plans to request permission from participating providers and hospitals to publish these measures on the SVS public website.

Steering Committee Follow-up:
The Steering Committee expressed concern about the documentation and tracking of aneurysm size outside of the SVS registry though it was believed that this could be captured based on chart notes. The Steering Committee will have a follow-up call to review this measure as part of the AAA Repair related and competing measures once a composite has been created for measures 0357 and 0359.

1. Importance to Measure and Report: Y-18; N-3
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The measure provides important outcome data. More AAA repairs are being conducted; although, they may not be medically necessary. However, the data provided in the measure included both small and large aneurysms, despite the stated measure's focus on only small AAAs. High mortality levels may encourage a process review.

2. Scientific Acceptability of Measure Properties: C-2; P-16; M-2; N-1
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The Committee described the importance of extending the measure to 30-day mortality to identify adverse outcomes. The Committee stated the numerator time window, while verbally explained satisfactorily, could be confusing to users. Testing was questioned; while the measure focused on small aneurysms, testing was conducted on large aneurysms.

3. Usability: C-4; P-11; M-4; N-2
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: The measure has potential value for accountability and improvements; however, need for improved specifications and testing with required data requires additional work.

4. Feasibility: C-4; P-10; M-3; N-4
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: The registry group from which data for this measure is drawn is 10 hospitals; thus, information about feasibility is limited both in terms of the number of facilities in which tested and testing with only registry data. At present there is no mechanism for identifying small aneurysms with administrative data. The developer is working to develop CPT II codes that would allow aneurysm size to be captured and reported with administrative data. This would require new/additional specifications for the measure. It was noted that the measure could be revised and limited to mortality unrelated to aneurysm size that could be collected using administrative data; this would require further modification of the measure.

1534 In-hospital mortality following elective EVAR of small AAAs

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percentage of patients undergoing elective endovascular repair of small asymptomatic abdominal aortic aneurysms (AAA) who die while in hospital. This measure is proposed for both hospitals and individual providers.
Numerator Statement: Mortality following elective endovascular AAA repair of asymptomatic AAAs in men with < 6 cm dia and women

1534 In-hospital mortality following elective EVAR of small AAAs

with < 5.5 cm dia AAAs

Denominator Statement: All elective endovascular repairs of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs

Exclusions:

> 6 cm diameter - men

> 5.5 cm diameter – women

Symptomatic AAAs that required urgent/emergent (non-elective) repair

Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure.

Level of Analysis: Can be measured at all levels, Clinicians: Group, Clinicians: Individual, Facility/ Agency

Type of Measure: Outcome

Data Source: Registry data

Measure Steward: Society for Vascular Surgery | 633 N. St. Clair, 22nd Floor | Chicago | Illinois, 60611

Steering Committee Recommendation for Endorsement: Conditional Y-9; N-12; A-0 Pending final recommendation.

Rationale: The evidence supports the measure's focus on small AAAs repairs and it provides important outcome data; however, the Committee has a number of questions for which it requested developer response before further consideration of the measure.

If applicable, Conditions/Questions for Developer:

Based on the narrow margin of the Steering Committee vote related to having met criteria for endorsement, the committee will reconsider the measure with the response to the questions and conditions below.

1. De2. Brief Description and 2a.1 Numerator Statement: Suggested modification- addition of 30-day mortality with in-hospital mortality. Also, please clarify whether aneurysm size can be collected using administrative (i.e., is widely available outside the Northern New England registry), or available clinical data and the added burden of such collection.
2. 2a Measure Specifications: Scope of the measure as specified will have limited impact. Please reevaluate.
3. 2b Reliability Testing and 2c Validity Testing: Identify the testing that will need to be completed for the suggested modifications?
4. 2d. Exclusions: Provide reconcile sample size and data for what is being measured. Also reconcile aneurysm size in the population of interest and the sizes specified throughout.
5. 2h. Disparities in Care: Providing information about disparities or plans to be able to provide same.
6. 3a.2 Use in a public reporting initiative: Please provide plans for public reporting (within 3 years).

Developer Response:

1. We suggest in-hospital instead of 30-day mortality for several reasons. We have previously studied mortality within the first year after elective endovascular AAA repair. In-hospital mortality was 0.48% and 30-day mortality was 0.50% in VSGNE, since almost every patient who died within 30 days was never discharged. [Predicting 1-year mortality after elective abdominal aortic aneurysm repair. Beck et al, J Vasc Surg. 2009.49:838-44]. Further, in-hospital mortality is more easily obtained and audited, and is immediately available at the time of discharge. Finally, there is lower cost for obtaining in-hospital results, since subsequent patient contact after discharge is not necessary. We believe that these advantages make in-hospital mortality a more appropriate measure and have not changed this portion of the application. AAA size is readily available in the medical record, and is tracked not only in VSGNE, but the SVS VQI registry, which now comprises more than 80 centers in 30 states across the U. S., and is expected to comprise all states by 2012. The SVS VQI is the de facto national registry for vascular surgery. While AAA size cannot currently be collected using administrative data, we expect that the great majority of vascular surgeons in the U.S. will be participating in SVS VQI by 2012.
2. We are not certain as to the exact specification within 2a to which this comment is applied. However, we disagree that this measure will have limited impact. Most AAAs are small when detected, and there is a general suspicion that too many small AAAs are being repaired unnecessarily, with a resulting unnecessary operative mortality. This measure will focus attention on the elective mortality rate of endovascular AAA repair in these patients. Although the median mortality rate is low in VSGNE, there is significant variation among hospitals, and large clinical trials have documented this mortality to be 2-3%, even for small AAAs. If 10,000 patients per year in the US undergo unnecessary endovascular repair of such small AAAs, a 3% mortality results in 300 avoidable deaths. This is an important quality measure, and needs to be established in parallel with our open AAA repair measure, so that surgeons performing AAA repair can/must report their outcomes independent of which technique they use. We have not changed the measure form, because it was not clear where to insert this information.
3. As stated above, we have already compared in-hospital and 30-day mortality in 639 patients undergoing elective endovascular AAA repair in VSGNE and found no advantage to using 30-day mortality, which is more difficult and more expensive to collect.
4. This section has been expanded. Data are provided for large and small AAAs, showing difference in operative mortality, emphasizing the reason for including only SMALL dia AAAs in this measure. Patients with larger diameter AAAs cannot be included without complex risk adjusting that is not available. However, data indicate that MANY small AAAs are being electively repaired, and it is in this population that a quality measure is needed. Most patients with much larger AAAs always warrant treatment, since the AAA rupture risk is so high if not treated.
5. Disparities have not been reported. As additional data are acquired from the SVS registry across a much larger and varied population, future disparities may be discovered.

1534 In-hospital mortality following elective EVAR of small AAAs
6. SVS intends to request that all of these measures be included in PQRS, and expects CMS to begin publishing PQRS data in the near future. Independent of this, SVS plans to request permission from participating providers and hospitals to publish these measures on the SVS public website. Steering Committee Follow-up: The Steering Committee expressed concern about the documentation and tracking of aneurysm size outside of the SVS registry. The Steering Committee will have a follow-up call to review this measure as part of the AAA Repair related and competing measures once a composite has been created for measures 0357 and 0359.
1. Importance to Measure and Report: Y-21; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The measure provides important outcome data. More AAA repairs are being conducted; although, they may not be medically necessary. However, the data provided in the measure included both small and large aneurysms, despite the measure's focus on only small AAAs. High mortality levels may encourage a process review.
2. Scientific Acceptability of Measure Properties: C-5; P-13; M-3; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee discussed the importance of extending the measure to 30-day mortality to identify adverse outcomes. The Committee stated that the time window may be confusing.
3. Usability: C-3; P-15; M-2; N-1 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: In the future the measure could be adjusted to be applicable for other procedures.
4. Feasibility: C-5; P-10; M-5; N-1 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The measure did not provide wide spread testing data and may not be feasible without the registry. The developer is attempting to create CPT II codes to facilitate use beyond the registry in the future.

0352 Failure to rescue in-hospital mortality (risk adjusted)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients who died with a complications in the hospital. Numerator Statement: Patients who died with a complication plus patients who died without documented complications. Death is defined as death in the hospital. All patients in an FTR analysis have developed a complication (by definition). Complicated patient has at least one of the complications defined in Appendix B(see website http://www.research.chop.edu/programs/cor/outcomes.php). Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. Comorbidities are defined in Appendix C (see website http://www.research.chop.edu/programs/cor/outcomes.php) using secondary ICD9 diagnosis codes of the current admission and primary or secondary ICD9 diagnosis codes of previous admission within 90 days of the admission date of the current admission. *When physician part B is available, the definition of complications and comorbidities are augmented to include CPT codes. Denominator Statement: General Surgery, Orthopedic and Vascular patients in specific DRGs with complications plus patients who died in the hospital without complications. Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A http://www.research.chop.edu/programs/cor/outcomes.php) Exclusions: Patients over age 90, under age 18. Adjustment/Stratification: risk-adjustment devised specifically for this measure/condition Risk Adjustment: Model was developed using logistic regression analysis. Associated data elements: age in years, sex, race, comorbidities, DRGs (combined with and without complications) and procedure codes within DRGs, transfer status. Failure to rescue is adjusted using a logistic regression model where y is a failure and the total N is composed of patients who develop a complication and patients who died without a complication. According to developer: The model adjustment variables can vary. We have found that FTR results are fairly stable, even with little adjustment, since all patients in an FTR analysis have developed a complication (by definition), they are a more homogeneous group of patients than the entire population. Hence severity adjustment plays somewhat less of a role than in other outcome measures/Complicated patient has at least one of the complications defined in Appendix B (http://www.research.chop.edu/programs/cor/outcomes.php) Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. When Physician Part B file is available, the definition of complications and comorbidities are augmented to include CPT codes.

0352 Failure to rescue in-hospital mortality (risk adjusted)

Level of Analysis: Facility/ Agency, Health Plan, Integrated Delivery System, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States
Type of Measure: Outcome
Data Source: Electronic administrative data/ claims
Measure Steward: The Children´s Hospital of Philadelphia | 3535 Market Street, Suite 1029 | Philadelphia | Pennsylvania | 19104

Steering Committee Recommendation for Endorsement: Conditional Y-18; N-3; A-0
Rationale: The measure provides information about how hospitals handle patients who develop complications; i.e., whether hospital systems are in place to prevent a patient complication from progressing to death.

If applicable, Conditions/Questions for Developer:

1. 2a.6 Target Population Age Range: Reevaluate upper age limit in terms of increasing and providing exclusions to capture limited future; e.g., DNR status. In future, consider development of a companion pediatric measure.
2. 2h. Disparities in Care: Provide information about disparities or plans to be able to provide data.
3. 3a.2 Use in Public Reporting Initiative: Provide plans and expected date (within 3 years) for public reporting.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization

Developer Response:

1. 2a.6 Target Population Age Range: We use 90 years as a cut-point because of our concern regarding the increased use of do-not-resuscitate at higher ages [Wenger et al. Epidemiology of Do-Not Resuscitate Orders. Disparity by Age, Diagnosis, Gender, Race, and Functional Impairment. Arch Intern Med. 1995; 155(19):2056-62, Hakim et al. Factors Associated with Do-Not-Resuscitate Orders: Patients', Preferences, Prognoses, and Physicians Judgments. Ann Intern Med.1996; 125:284-293.]. While we do adjust for admission severity when reporting FTR, and this includes age, we still thought it prudent to use an upper bound on age, since DNR status prior to the procedure is not well defined at hospitals [Tabak YP, Johannes RS, Silber JH, Kurtz SG, Gibber EM. Should do-not-resuscitate status be included as a mortality risk adjustor? The impact of DNR variations on performance reporting. Med Care 2005; 43:658-666] (See 2d.1 Measure Exclusions Explanation section in submission form). Currently, we are not considering developing a companion pediatric measure because in general the pediatric population has low mortality rates. However we are currently exploring the development of a pediatric FTR specifically for cardiothoracic surgery where mortality rates are higher.
2. 2h. Disparities in Care:
   2h.1. Disparities in care are shown in Silber et al Arch Surg 2009 where the results show white patients displayed a reduction in failure-to-rescue rates in the teaching intensive hospitals vs. non-teaching hospitals (OR, 0.94; 95% CI, 0.92-0.97), black patients displayed an increased failure-to-rescue rate (OR, 1.06; 95% CI, 1.00-1.12)(Results are based on 30 day mortality FTR however in-hospital showed similar results)
   2h.2 Failure to Rescue can be used to detect disparities in health outcomes across providers, shown in Silber et al. Arch Surg 2009.
3. 3a.2 Use in Public Reporting Initiative: FTR information is online for the public to access (http://stokes.chop.edu/programs/cor/outcomes.php). Consumers can access FTR results through the multiple research publications on the measure. In the future FTR could be reported on a wider scale, the same way that mortality rates are reported.

Steering Committee Follow-up:

1. The Steering Committee agreed that the response from the developer was adequate.
2. This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0352*: Failure to rescue in-hospital mortality (risk adjusted); m*aintenance measure 0351*: Death among surgical in-patients with serious, treatable complications (PSI 4); and m*aintenance measure 0353*: Failure to rescue 30-day mortality (risk adjusted). Discussion of the three measures is included here. It was noted that measures 0352 and 0353 were initially a single measure that were divided at request of the NQF steering committee that initially considered the measure. The Steering Committee discussed the in-hospital focused measures with the developers in some detail. They noted that while the measures have common elements, measure 0351 captures a broader list of procedures and that some measures of validity have a stronger association with that measure. They also noted that measure 0352 captures a broader group of complications and reliability measures higher than those of 0351 have been reported. Members commented that the measures, while conceptually similar, have different aims; i.e., capture of avoidable complications vs. failure to rescue. In reflecting on the question of whether measure similarities argue for consideration of whether one meets criteria better than the other, they agreed that the measures have different objectives and are complementary.

1. Importance to Measure and Report: Y-18; N-3
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The measure complements mortality and complication statistics. It provides additional insight into statistics by looking beyond crude mortality and assesses whether hospital systems are in place to prevent a patient complication from progressing to death. This measure is supported by the evidence.

2. Scientific Acceptability of Measure Properties: C-9; P-11; M-1; N-0
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f.

0352 Failure to rescue in-hospital mortality (risk adjusted)

Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The measure contains updated CPT codes. The measure is risk adjusted and the population captured includes patients with and without documented complications. It assumes that if patients die post-surgery, there was an undocumented complication.

3. Usability: C-7; P-12; M-2; N-0
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: The measure is somewhat complicated and has not yet been used in public reporting.

4. Feasibility: C-8; P-12; M-1; N-0
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: The measure will be relatively easy to collect since it uses administrative data.

0353 Failure to rescue 30-day mortality (risk adjusted)

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percentage of patients who died with a complication within 30 days from admission.
Numerator Statement: Patients who died with a complication plus patients who died without documented complications. Death is defined as death within 30 days from admission.
All patients in an FTR analysis have developed a complication (by definition).
Complicated patient has at least one of the complications defined in Appendix B(see website http://www.research.chop.edu/programs/cor/outcomes.php). Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission.
Comorbidities are defined in Appendix C(see website http://www.research.chop.edu/programs/cor/outcomes.php) using secondary ICD9 diagnosis codes of the current admission and primary or secondary ICD9 diagnosis codes of previous admission within 90 days of the admission date of the current admission.
*When physician part B is available, the definition of complications and comorbidities are augmented to include CPT codes.
Denominator Statement: General Surgery, Orthopedic and Vascular patients in specific DRGs with complications plus patients who died in the hospital without complications.
Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A http://www.research.chop.edu/programs/cor/outcomes.php)
Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A)
Exclusions: Patients over age 90, under age 18.
Adjustment/Stratification: risk-adjustment devised specifically for this measure/condition Risk Adjustment: Model was developed using logistic regression analysis.
Associated data elements: age in years, sex, race, comorbidities, DRGs (combined with and without complications) and procedure codes within DRGs, transfer status.
Failure to rescue is adjusted using a logistic regression model where y is a failure and the total N is composed of patients who develop a complication and patients who died without a complication.
According to developer: The model adjustment variables can vary. We have found that FTR results are fairly stable, even with little adjustment, since all patients in an FTR analysis have developed a complication (by definition), they are a more homogeneous group of patients than the entire population. Hence severity adjustment plays somewhat less of a role than in other outcome measures/Complicated patient has at least one of the complications defined in Appendix B (http://www.research.chop.edu/programs/cor/outcomes.php) Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. When Physician Part B file is available, the definition of complications and comorbidities are augmented to include CPT codes.
Level of Analysis: Facility/ Agency, Health Plan, Integrated Delivery System, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States
Type of Measure: Outcome
Data Source: Electronic administrative data/ claims
Measure Steward: The Children´s Hospital of Philadelphia | 34th St. and Civic Center Blvd. | Philadelphia | Pennsylvania | 19104

Steering Committee Recommendation for Endorsement: Conditional Y-13; N-8; A-0
Rationale: The measure provides information about how hospitals handle patients who develop complications; i.e., prevent patient complications from progressing to death. It will also track difference in length of stay that could bias statistics associated with in-hospital mortality.

If applicable, Conditions/Questions for Developer:

1. 2a.6 Target Population Age Range: Reevaluate upper age limit in terms of increasing and providing exclusions to capture limited future; e.g., DNR status. In future, consider development of a companion pediatric measure.
2. 2h. Disparities in Care: Provide information about disparities or plans to be able to provide data.
3. 3a.2 Use in Public Reporting Initiative: Provide plans and expected date (within 3 years) for public reporting.

0353 Failure to rescue 30-day mortality (risk adjusted)

4. Please advise how 30 day data is collected and how post-hospital care with potential for affecting outcomes is handled.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization

Developer Response:

1. 2a.6 Target Population Age Range: We use 90 years as a cut-point because of our concern regarding the increased use of do-not-resuscitate at higher ages [Wenger et al. Epidemiology of Do-Not Resuscitate Orders. Disparity by Age, Diagnosis, Gender, Race, and Functional Impairment. Arch Intern Med. 1995; 155(19):2056-62, Hakim et al. Factors Associated with Do-Not-Resuscitate Orders: Patients', Preferences, Prognoses, and Physicians Judgments. Ann Intern Med.1996; 125:284-293.]. While we do adjust for admission severity when reporting FTR, and this includes age, we still thought it prudent to use an upper bound on age, since DNR status prior to the procedure is not well defined at hospitals [Tabak YP, Johannes RS, Silber JH, Kurtz SG, Gibber EM. Should do-not-resuscitate status be included as a mortality risk adjustor? The impact of DNR variations on performance reporting. Med Care 2005; 43:658-666] (See 2d.1 Measure Exclusions Explanation section in submission form)
   Currently, we are not considering developing a companion pediatric measure because in general the pediatric population has low mortality rates. However we are currently exploring the development of a pediatric FTR specifically for cardiothoracic surgery where mortality rates are higher.
2. 2h. Disparities in Care:
   2h.1. Disparities in care are shown in Silber et al Arch Surg 2009 where the results show white patients displayed a reduction in failure-to-rescue rates in the teaching intensive hospitals vs. non-teaching hospitals (OR, 0.94; 95% CI, 0.92-0.97), black patients displayed an increased failure-to-rescue rate (OR, 1.06; 95% CI, 1.00-1.12)(Results are based on 30 day mortality FTR however in-hospital showed similar results)
   2h.2. Failure to Rescue can be used to detect disparities in health outcomes across providers, shown in Silber et al. Arch Surg 2009.
3. 3a.2 Use in Public Reporting Initiative: FTR information is online for the public to access (http://stokes.chop.edu/programs/cor/outcomes.php). Consumers can access FTR results through the multiple research publications on the measure. In the future FTR could be reported on a wider scale, the same way that mortality rates are reported.
4. If one has administrative claims data that can be linked to post-discharge data, then one can report a 30-day from admission measure. The advantage of a 30-day measure is that it is unbiased with respect to the practice pattern of the hospital. All hospitals are judged with the same 30-day window whether they tend to discharge patients earlier than later. This is generally considered to be the gold standard for using mortality data. The FTR 30-day measure has the same advantages of the 30-day mortality measure. Analytic difficulties related to post-discharge care have the same likelihood of occurring across hospitals using the 30-day measure but would be more problematic if a uniform window would not be used.

Steering Committee Follow-up:

1. The Steering Committee agreed that the response from the developer was adequate.
2. This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0352*: Failure to rescue in-hospital mortality (risk adjusted); m*aintenance measure 0351*: Death among surgical in-patients with serious, treatable complications (PSI 4); and m*aintenance measure 0353*: Failure to rescue 30-day mortality (risk adjusted). Discussion of the three measures is included here. It was noted that measures 0352 and 0353 were initially a single measure that were divided at request of the NQF steering committee that initially considered the measure. The Steering Committee discussed the in-hospital focused measures with the developers in some detail. They noted that while the measures have common elements, measure 0351 captures a broader list of procedures and that some measures of validity have a stronger association with that measure. They also noted that measure 0352 captures a broader group of complications and reliability measures higher than those of 0351 have been reported. Members commented that the measures, while conceptually similar, have different aims; i.e., capture of avoidable complications vs. failure to rescue. In reflecting on the question of whether measure similarities argue for consideration of whether one meets criteria better than the other, they agreed that the measures have different objectives and are complementary.

1. Importance to Measure and Report: Y-17; N-3; A-0

(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)

Rationale: The measure complements mortality and complication statistics. It provides additional insight into statistics by looking beyond crude mortality and assesses whether hospital systems are in place to prevent a patient complication from progressing to death. This measure is supported by the evidence.

2. Scientific Acceptability of Measure Properties: C-6; P-12; M-2; N-0

(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)

Rationale: The measure contains updated CPT codes. The measure is risk adjusted and the population captured includes patients with and without documented complications. It assumes that if patients die post-surgery, there was an undocumented complication.

3. Usability: C-3; P-10; M-8; N-0

(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing

0353 Failure to rescue 30-day mortality (risk adjusted)

measures)

Rationale: The measure uses administrative data and has been show to be useable; however, it may be complicated to track given the 30 day range.

4. Feasibility: C-3; P-10; M-7; N-1

(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)

Rationale: This measure has not yet been used in public reporting. There were questions regarding feasibility of use of this measure for non-Medicare patients.

0351 Death among surgical inpatients with serious, treatable complications (PSI 4)

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percentage of cases having developed specified complications of care with an in-hospital death.

Numerator Statement: All discharges with a disposition of "deceased" (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

Denominator Statement: All surgical discharges age 18 years and older or MDC 14 (pregnancy, childbirth, and puerperium) defined by specific DRGs or MS-DRGs and an ICD-9-CM code for an operating room procedure, principal procedure within 2 days of admission OR admission type of elective (ATYPE=3) with potential complications of care listed in Death among Surgical definition (e.g., pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer).

Exclusions: Exclude cases:

• age 90 years and older

• transferred to an acute care facility (DISP = 2)

• missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing)

NOTE: Additional exclusion criteria is specific to each diagnosis (pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer). See 2a.10.

Adjustment/Stratification: risk adjustment method widely or commercially available The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, age in years (in 5-year age groups), modified CMS DRG and AHRQ Comorbidities. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate/User has an option to stratify by Gender, age (5-year age groups), race/ ethnicity, primary payer, and custom stratifiers.

Level of Analysis: Facility/ Agency

Type of Measure: Outcome

Data Source: Electronic administrative data/ claims

Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

Steering Committee Recommendation for Endorsement: Conditional Y-18; N-1; A-0

Rationale: This measure highlights specific complications, which presents opportunities for early interventions and action

If applicable, Conditions/Questions for Developer:

1. 2a.6 Target Population Age Range: Expand the age range to include a larger population.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization.

Developer Response:

1. There was an error in the NQF measure maintenance form, which noted age 75 years and older were excluded. The actual exclusion is age 90 years and older.

Steering Committee Follow-up:

1. The Steering Committee agreed that the response from the developer was adequate, but requested that the developer update the age specifications listed on their website.
2. This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0352*: Failure to rescue in-hospital mortality (risk adjusted); m*aintenance measure 0351*: Death among surgical in-patients with serious, treatable complications (PSI 4); and m*aintenance measure 0353*: Failure to rescue 30-day mortality (risk adjusted). Discussion of the three measures is included here. It was noted that measures 0352 and 0353 were initially a single measure that were divided at request of the NQF steering committee that initially considered the measure. The Steering Committee discussed the in-hospital focused measures with the developers in some detail. They noted that while the measures have common elements, measure 0351 captures a broader list of procedures and that some measures of validity have a stronger association with that measure. They also noted that measure 0352 captures a broader group of complications and reliability measures higher than those of 0351 have been reported. Members commented that the measures, while conceptually similar, have different aims; i.e., capture of avoidable complications vs. failure to rescue. In reflecting on the question of whether

0351 Death among surgical inpatients with serious, treatable complications (PSI 4)
measure similarities argue for consideration of whether one meets criteria better than the other, they agreed that the measures have different objectives and are complementary.
1. Importance to Measure and Report: Y-19; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: This goal of this measure is to capture information about a specific set of surgical complications that have been determined to provide opportunity for early intervention and improvement action.
2. Scientific Acceptability of Measure Properties: C-13; P-7; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: An advantage of this measure is that it focuses on a broad population, patients 18 and over.
3. Usability: C-13; P-7; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure is currently being widely reported to the public.
4. Feasibility: C-14; P-5; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The measure uses claims data and was considered feasible.

1536 Cataracts: Improvement in patient's visual function within 90 days following cataract surgery
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients aged 18 years and older who had cataract surgery and had improvement in visual function achieved within 90 days following the cataract surgery Numerator Statement: Patients 18 years and older in sample who had improvement in visual function achieved within 90 days following cataract surgery, based on completing a pre-operative and post-operative visual function instrument Denominator Statement: All patients aged 18 years and older in sample who had cataract surgery Exclusions: Adjustment/Stratification: no risk adjustment necessary/ A risk adjustment methodology is not necessary if the stratification schema is utilized, as described above./ This measure can be stratified into two major groups: those patients with ocular co-morbidities and those patients without ocular co-morbidities. An improvement in visual function after cataract surgery would be expected in both groups, however the magnitude of the difference would vary by group. The Cataract Patient Outcomes Research Team found that an important preoperative patient characteristic that was independently associated with failure to improve on one of the outcomes measured (including the VF-14) was ocular comorbidity. The authors explained that this was expected, because it is reasonable to assume that other diseases that impair visual function would be correlated with a reduced improvement in functional status. The National Eye Care Outcomes Network also found that there were differences in the mean postooperative VF-14 scores across groups of patients with and without ocular co-morbidities, as seen in the table below. The study involving the Rasch-scaled short version of the VF-14 also found differences between the preoperative and postoperative visual function test scores and differences between preoperative and postoperative visual function tests, as seen below. National Eyecare Outcomes Network Mean VF-14 (postoperative) - Total 92.7 - With ocular comorbidity 89.9 - Without ocular comorbidity 94.6 Rasch-Scaled Short Version of the VF-14 Patients without Ocular Comorbidity - Preop VF-8R - 68.87 Postop VF-8R - 86.22 Mean Diff = 17.35 Patients with Ocular Comorbidity - Preop VF-8R - 67.71 Postop VF-8R - 81.58 Mean Diff = 13.87 A list of codes for comorbidities can be found in the AMA PCPI measure for 20/40 visual acuity after cataract surgery: Acute and subacute iridocyclitis 364.00 Acute and subacute iridocyclitis 364.01 Acute and subacute iridocyclitis 362.02 Acute and subacute iridocyclitis 364.03 Acute and subacute iridocyclitis 364.04 Acute and subacute iridocyclitis 364.05 Amblyopia 368.01

1536 Cataracts: Improvement in patient's visual function within 90 days following cataract surgery				
Amblyopia	368.02			
Amblyopia	368.03			
Burn confined to eye and adnexa	940.0			
Burn confined to eye and adnexa	940.1			
Burn confined to eye and adnexa	940.2			
Burn confined to eye and adnexa	940.3			
Burn confined to eye and adnexa	940.4			
Burn confined to eye and adnexa	940.5			
Burn confined to eye and adnexa	940.9			
Cataract secondary to ocular disorders	366.32			
Cataract secondary to ocular disorders	366.33			
Certain types of iridocyclitis	364.21			
Certain types of iridocyclitis	364.22			
Certain types of iridocyclitis	364.23			
Certain types of iridocyclitis	364.24			
Certain types of iridocyclitis	364.3			
Choroidal degenerations	363.43			
Choroidal detachment	363.72			
Choroidal hemorrhage and rupture	363.61			
Choroidal hemorrhage and rupture	363.62			
Choroidal hemorrhage and rupture	363.63			
Chorioretinal scars	363.30			
Chorioretinal scars	363.31			
Chorioretinal scars	363.32			
Chorioretinal scars	363.33			
Chorioretinal scars	363.35			
Chronic iridocyclitis	364.10			
Chronic iridocyclitis	364.11			
Cloudy cornea	371.01			
Cloudy cornea	371.02			
Cloudy cornea	371.03			
Cloudy cornea	371.04			
Corneal edema	371.20			
Corneal edema	371.21			
Corneal edema	371.22			
Corneal edema	371.23			
Corneal edema	371.43			
Corneal edema	371.44			
Corneal opacity and other disorders of cornea	371.00			
Corneal opacity and other disorders of cornea	371.03			
Corneal opacity and other disorders of cornea	371.04			
Degenerative disorders of globe	360.20			
Degenerative disorders of globe	360.21			
Degenerative disorders of globe	360.23			
Degenerative disorders of globe	360.24			
Degenerative disorders of globe	360.29			
Degeneration of macula and posterior pole	362.50			
Degeneration of macula and posterior pole	362.51			
Degeneration of macula and posterior pole	362.52			
Degeneration of macula and posterior pole	362.53			
Degeneration of macula and posterior pole	362.54			
Degeneration of macula and posterior pole	362.55			
Degeneration of macula and posterior pole	362.56			
Degeneration of macula and posterior pole	362.57			
Disseminated chorioretinitis and disseminated retinochoroiditis	363.10			
Disseminated chorioretinitis and disseminated retinochoroiditis	363.11			
Disseminated chorioretinitis and disseminated retinochoroiditis	363.12			
Disseminated chorioretinitis and disseminated retinochoroiditis	363.13			

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Disseminated chorioretinitis and disseminated retinochoroiditis	363.14
Disseminated chorioretinitis and disseminated retinochoroiditis	363.15
Diabetic retinopathy	362.01
Diabetic retinopathy	362.02
Diabetic retinopathy	362.03
Diabetic retinopathy	362.04
Diabetic retinopathy	362.05
Diabetic retinopathy	362.06
Diabetic macular edema	362.07
Disorders of optic chiasm	377.51
Disorders of optic chiasm	377.52
Disorders of optic chiasm	377.53
Disorders of optic chiasm	377.54
Disorders of visual cortex	377.75
Focal chorioretinitis and focal retinochoroiditis	363.00
Focal chorioretinitis and focal retinochoroiditis	363.01
Focal chorioretinitis and focal retinochoroiditis	363.03
Focal chorioretinitis and focal retinochoroiditis	363.04
Focal chorioretinitis and focal retinochoroiditis	363.05
Focal chorioretinitis and focal retinochoroiditis	363.06
Focal chorioretinitis and focal retinochoroiditis	363.07
Focal chorioretinitis and focal retinochoroiditis	363.08
Glaucoma	365.10
Glaucoma	365.11
Glaucoma	365.12
Glaucoma	365.13
Glaucoma	365.14
Glaucoma	365.15
Glaucoma	365.20
Glaucoma	365.21
Glaucoma	365.22
Glaucoma	365.23
Glaucoma	365.24
Glaucoma	365.31
Glaucoma	365.32
Glaucoma	365.51
Glaucoma	365.52
Glaucoma	365.59
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.41
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.42
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.43
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.44
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.60
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.61
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.62
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.63
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.64
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.65
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.81
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.82
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.83
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.89
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.9
Hereditary corneal dystrophies	371.50
Hereditary corneal dystrophies	371.51
Hereditary corneal dystrophies	371.52
Hereditary corneal dystrophies	371.53
Hereditary corneal dystrophies	371.54

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Hereditary corneal dystrophies	371.55
Hereditary corneal dystrophies	371.56
Hereditary corneal dystrophies	371.57
Hereditary corneal dystrophies	371.58
Hereditary choroidal dystrophies	363.50
Hereditary choroidal dystrophies	363.51
Hereditary choroidal dystrophies	363.52
Hereditary choroidal dystrophies	363.53
Hereditary choroidal dystrophies	363.54
Hereditary choroidal dystrophies	363.55
Hereditary choroidal dystrophies	363.56
Hereditary choroidal dystrophies	363.57
Hereditary retinal dystrophies	362.70
Hereditary retinal dystrophies	362.71
Hereditary retinal dystrophies	362.72
Hereditary retinal dystrophies	362.73
Hereditary retinal dystrophies	362.74
Hereditary retinal dystrophies	362.75
Hereditary retinal dystrophies	362.76
High myopia	360.20
High myopia	360.21
Injury to optic nerve and pathways	950.0
Injury to optic nerve and pathways	950.1
Injury to optic nerve and pathways	950.2
Injury to optic nerve and pathways	950.3
Injury to optic nerve and pathways	950.9
Keratitis	370.03
Moderate or severe impairment, better eye, profound impairment lesser eye	369.10
Moderate or severe impairment, better eye, profound impairment lesser eye	369.11
Moderate or severe impairment, better eye, profound impairment lesser eye	369.12
Moderate or severe impairment, better eye, profound impairment lesser eye	369.13
Moderate or severe impairment, better eye, profound impairment lesser eye	369.14
Moderate or severe impairment, better eye, profound impairment lesser eye	369.15
Moderate or severe impairment, better eye, profound impairment lesser eye	369.16
Moderate or severe impairment, better eye, profound impairment lesser eye	369.17
Moderate or severe impairment, better eye, profound impairment lesser eye	369.18
Nystagmus and iother irregular eye movements	379.51
Open wound of eyeball	871.0
Open wound of eyeball	871.1
Open wound of eyeball	871.2
Open wound of eyeball	871.3
Open wound of eyeball	871.4
Open wound of eyeball	871.5
Open wound of eyeball	871.6
Open wound of eyeball	871.7
Open wound of eyeball	871.9
Optic atrophy	377.10
Optic atrophy	377.11
Optic atrophy	377.12
Optic atrophy	377.13
Optic atrophy	377.14
Optic atrophy	377.15
Optic atrophy	377.16
Optic neuritis	377.30
Optic neuritis	377.31
Optic neuritis	377.32
Optic neuritis	377.33
Optic neuritis	377.34

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Optic neuritis	377.39		
Other background retinopathy and retinal vascular changes	362.12		
Other background retinopathy and retinal vascular changes	362.16		
Other background retinopathy and retinal vascular changes	362.18		
Other corneal deformities	371.70		
Other corneal deformities	371.71		
Other corneal deformities	371.72		
Other corneal deformities	371.73		
Other disorders of optic nerve		377.41	
Other disorders of sclera	379.11		
Other disorders of sclera	379.12		
Other endophthalmitis	360.11		
Other endophthalmitis	360.12		
Other endophthalmitis	360.13		
Other endophthalmitis	360.14		
Other endophthalmitis	360.19		
Other retinal disorders	362.81		
Other retinal disorders	362.82		
Other retinal disorders	362.83		
Other retinal disorders	362.84		
Other retinal disorders	362.85		
Other retinal disorders	362.89		
Other and unspecified forms of chorioretinitis and retinochoroiditis			363.20
Other and unspecified forms of chorioretinitis and retinochoroiditis			363.21
Other and unspecified forms of chorioretinitis and retinochoroiditis			363.22
Prior penetrating keratoplasty	371.60		
Prior penetrating keratoplasty	371.61		
Prior penetrating keratoplasty	371.62		
Profound impairment, both eyes		369.00	
Profound impairment, both eyes		369.01	
Profound impairment, both eyes		369.02	
Profound impairment, both eyes		369.03	
Profound impairment, both eyes		369.04	
Profound impairment, both eyes		369.05	
Profound impairment, both eyes		369.06	
Profound impairment, both eyes		369.07	
Profound impairment, both eyes		369.08	
Purulent endophthalmitis	360.00		
Purulent endophthalmitis	360.01		
Purulent endophthalmitis	360.02		
Purulent endophthalmitis	360.03		
Purulent endophthalmitis	360.04		
Retinal detachment with retinal defect		361.00	
Retinal detachment with retinal defect		361.01	
Retinal detachment with retinal defect		361.02	
Retinal detachment with retinal defect		361.03	
Retinal detachment with retinal defect		361.04	
Retinal detachment with retinal defect		361.05	
Retinal detachment with retinal defect		361.06	
Retinal detachment with retinal defect		361.07	
Retinal vascular occlusion	362.31		
Retinal vascular occlusion	362.32		
Retinal vascular occlusion	362.35		
Retinal vascular occlusion	362.36		
Retinopathy of prematurity	362.21		
Scleritis and episcleritis	379.04		
Scleritis and episcleritis	379.05		
Scleritis and episcleritis	379.06		

1536 Cataracts: Improvement in patient's visual function within 90 days following cataract surgery

Scleritis and episcleritis 379.07
Scleritis and episcleritis 379.09
Separation of retinal layers 362.41
Separation of retinal layers 362.42
Separation of retinal layers 362.43
Uveitis 360.11
Uveitis 360.12
Visual field defects 368.41

References:

1. Schein OD, Steinberg EP, Cassard SD et al. Predictors of outcome in patients who underwent cataract surgery. Ophthalmology 1995; 102:817-23.
2. Lum F, Schachat AP, Jampel HD.The development and demise of a cataract surgery database. Jt Comm J Qual Improv. 2002 Mar;28(3):108-14.
3. Gothwal VK, Wright TA, Lamoureux EL, Pesudovs K. Measuring outcomes of cataract surgery using the Visual Function Index-14. J Cataract Refract Surg 2010; 36:1181-8. no risk adjustment necessary

Level of Analysis: Clinicians: Individual
Type of Measure: Outcome
Data Source: Survey: Patient
Measure Steward: American Academy of Ophthalmology and Hoskins Center for Quality Eye Care | 655 Beach Street | San Francisco | California, 94109-1336

Steering Committee Recommendation for Endorsement: Conditional Y-9; N-10; A-0
Rationale: The Committee verified the importance of patient centered measures such as this noting that the additional information that is provided from the patient perspective about visual function, with the requested updates, makes this a useful measure.

If applicable, Conditions/Questions for Developer:
Overarching comment: The numerator, denominator with the inclusions and exclusions should be refined to capture patients relevant to the measure focus and the measure should be tested with the changes that are made.

1. 2a.3 Numerator Details: a) Provide the method (e.g., scale or other method to demonstrate improvement quantatively pre- and post- surgery) to define "improvement"; b) It appears inappropriate to include, in the numerator, patients who do not complete visual function assessments; reevaluate how these cases should be handled; c) Indicate whether objective vs. subjective improvement by survey only; d) Specify whether patient is surveyed both pre-and post-surgery. If only post-surgery, is the patient asked to rate vision preoperatively and asked to rate vision post-operatively, or is the patient asked to rate the number of points of improvement?
2. 2a.9 Denominator Exclusions: Excluding patients who do not want to complete the survey inappropriately inflates the rate.
3. 2a.25 Data Source/Data Collection Instrument: a) Identify the specific tool(s) used for the measure and provide information about the use for which it/they have been validated (e.g., self-administration, provider facilitated administration, etc.); b) Include information about why the objective assessment of visual function/acuity should be supplement with such a measure; c) Define survey methodology: Is it a mail survey, phone survey, in office paper survey with questions asked by office staff? Is the survey of the entire population of those with cataract surgery or a sample? If a sample, please specify sampling methodology.
4. 3a.2 Use in Public Reporting Initiative: Provide plans and expected date (within 3 years) for public reporting.
5. 4e Data Collection Strategy: Clarify more specifically the burden on providers of data collection.

Developer Response:

1. 2a.3 Numerator Details: a) The method to define "improvement" used is the quantitative scale used pre and post surgery to measure visual function with the VF-8R instrument. The scale is from 0-100, with 0 indicating the lack of ability to perform any of the daily activities and 100 indicating full capability of performing the daily activities included in the survey. Currently in the scientific literature, there is no well-established method to define a threshold or interval that indicates improvement on the VF-8R. The Rasch scale has found to be more sensitive to change than the VF-14 in longitudinal studies and has a different scale for scoring than the VF-14. The VF-14 is based on summative scoring, which has no rationale for how numerical values are assigned and how a summary score is produced, and does not give a sense of the degree of change. The Rasch model is based on Item Response Theory, which is based on item difficulty in relationship to an individual's ability and weighs the overall score accordingly, providing a gain in precision. Thus any difference between the pre-operative and post-operative scores on the VF-8R would indicate an improvement in functional activities. The average difference found between pre-operative and post-operative assessment on the VF-8R was 15.39 (Standard error = 2.66).
   In the literature, there have been two studies looking at the clinically important differences for the VF-14 index. One study found that the minimal clinically important difference was 15.57; another study found that the minimally clinically important difference was 5.5. b) Regarding the cases that do not complete visual function instruments; these will not be included in the numerator. c) This is subjective improvement by patient self-reporting by survey, as measured by the VF-8R instrument. d) The patient is surveyed both pre- and post-surgery.
2. 2a.9 Denominator Exclusions: We agree and will not exclude patients who do not want to complete the survey.

1536 Cataracts: Improvement in patient's visual function within 90 days following cataract surgery

3. 2a.25 Data Source/Data Collection Instrument: a) The specific tool used for the measure is the VF-8R. The information about the use for which it has been validated is self- administration. There are at least two peer-reviewed studies in the literature reports demonstrating the validity and responsiveness of the self-administered VF-14. b) It is important to supplement the existing measure for objective assessment of visual acuity because this new measure centers on patient quality of life, ability to perform activities of daily living and is a patient-reported outcome. This is the outcome most critical and applicable to the patient. Visual acuity is an objective assessment of visual function but only describes one aspect of visual function. Visual function has multiple components in addition to central near, intermediate, and distance visual acuity. It also encompasses peripheral vision; visual search; binocular vision; depth perception; contrast sensitivity; perception of color; adaptation; and visual processing speed; all of which cannot be measured in a visual acuity test. This measure focuses on the functional disability caused by visual impairment, because many activities of daily living are affected by one or more of these components of visual function. c) The survey methodology is described as follows. The survey would be administered by a third party (a registry for reporting of PQRS measures) to prevent or minimize bias which might be introduced if it is an in-office paper survey with questions asked by the office staff. Options would be provided to the patient, either online survey, mail survey or phone survey, depending on their preferences and abilities. The survey would be of a sample of those individuals with cataract surgery. The sample size would be postulated at 30, because this is a well-accepted statistical sample and used by the CMS for reporting on measure groups in PQRS. Because visual function is reported at 90 days after surgery, this would allow physicians to identify 30 cases from January –August for reporting purposes.
4. 3a.2 Use in Public Reporting Initiative: This is planned for public reporting through the CMS PQRS within the next 3 years.
5. 4e Data Collection Strategy: The sampling strategy of 30 cases, and the use of a third party (a registry for reporting of PQRS measures initiated by the Academy) should significantly alleviate the burden on providers of data collection. Providers would not be responsible for collecting this data from patients and following up on their response.

Steering Committee Follow-up:

1. The Steering Committee stated that the data collection strategy involving the use of a third party and registry initiated by the Academy would alleviate the burden on providers. The Steering Committee clarified that about 94 percent of practicing ophthalmology practices belong to the Academy but that non-members could also be included in the registry.
2. This was one of two related measures considered for potential harmonization. The two included: n*ew candidate measure 1536*: Cataracts: Improvement in patient's visual function within 90 days following cataract surgery; and e*ndorsed measure 0565*: Cataracts: 20/40 or better visual acuity within 90 days following cataract surgery. Discussion of the two measures is included here. The Steering Committee noted that measures 1536 and 0565 are similar but not competing since one measures acuity and the other patient perception of visual function. Potential for harmonization was discussed in terms of numerator and denominator as well as data gathering strategies. It was determined that harmonization could result in the loss of valuable information. The group also liked the fact that measure 1536 measures patient satisfaction. Variation between the measures was considered acceptable since the measures are designed to capture different things/data.

1. Importance to Measure and Report: Y-18; N-1

(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)

Rationale: The Committee recognized the frequent occurrence of cataract surgery in the United States. They also affirmed the importance of patient-centered measures. In this measure, visual function is considered a more broad assessment than that of visual acuity.

2. Scientific Acceptability of Measure Properties: C-2; P-12; M-4; N-1

(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)

Rationale: The Committee was advised that the tool used for assessment of visual function had been validated. It was questioned how the measure defined visual improvement. The time window of the measure may need to be extended to take into account multi-focal implants, which are now being used to improve visual acuity. The Committee suggested measuring the improvement in visual function for patients with and without comorbidities.

3. Usability: C-1; P-15; M-1; N-2

(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)

Rationale: The tool is self-administered. The return rate has been 50 percent; which is considered a good rate for surveys. Some patient contact has been required to increase return rate. The Committee encouraged the developer to reconsider this practice. They did note the value to consumer decision making to have the type of information the measure provides.

4. Feasibility: C-1; P-12; M-4; N-2

(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)

Rationale: It was questioned whether patients could accurately assess their visual acuity. In addition to potential bias introduced by calling patients to respond, they also mentioned that the exclusion criteria of "patient refused to participate" may bias the results. Additionally, conducting the survey will incur a cost and the burden on the provider was described as unclear.

0528 Prophylactic antibiotic selection for surgical patients

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure).
Numerator Statement: Surgical patients who received recommended prophylactic antibiotics for specific surgical procedures
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 who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes)
Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope
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 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 did not receive any antibiotics before or during surgery, or within 24 hours after Anesthesia End Time (i.e., patient did not receive prophylactic antibiotics)
Patients who did not receive any antibiotics during this hospitalization
Adjustment/Stratification: no risk adjustment necessary/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 be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-2 are 5.01 to 5.08.
Level of Analysis: Facility/ Agency, Population: National, Can be measured at all levels, Program: QIO
Type of Measure: Process
Data Source: Electronic administrative data/ claims; Electronic Health/ Medical Record; Paper medical record/ flow-sheet
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 http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093
Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Boulevard , Mail Stop S3-01-02 | Baltimore | Maryland | 21244-1850

Steering Committee Recommendation for Endorsement: Conditional Y-18; N-0; A-0
Rationale: This measure was described as appropriate and important to encourage continued focus on post surgical infection.

Steering Committee Follow-up:
This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0126*: Selection of antibiotic prophylaxis for cardiac surgery patients; e*ndorsed measure 0268*: Selection of prophylactic antibiotic: First or second generation cephalosporin; and m*aintenance measure 0528*: Prophylactic antibiotic selection for surgical patients. Discussion of the three measures is included here. The Steering Committee determined there were no competing measures in the group. Members made no recommendations for harmonization of measure 0126 which is limited to cardiac surgery and is derived from registry data. Members requested that measures 0268 and 0528 be combined into a single measure from which the cephalosporin data for individual clinicians required by 0268 could be reported as a subset. For the measure not within the current project (AMA-PCPI measure 0268), NQF staff will relay the request of the Committee for developer action as they update and test the measure.

1. Importance to Measure and Report: Y-18; N-0
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The measure is strongly supported by evidence. While performance rates are relatively high, room for improvement remains.

2. Scientific Acceptability of Measure Properties: C-15; P-3; M-0; N-0
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The science behind the antibiotic selections is good but will need to continue to be harmonized with national guidelines as they come out. The Committee noted that including laparoscopic procedures will no longer be an exclusion effective January 1, 2012, which they supported.

3. Usability: C-16; P-2; M-0; N-0

0528 Prophylactic antibiotic selection for surgical patients

(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: The Committee indicated that the measure will require ongoing harmonization with national guidelines as they are released.

4. Feasibility: C-15; P-3; M-0; N-0
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: The Committee stated that the measure was feasible based on data source.

0126 Selection of antibiotic prophylaxis for cardiac surgery patients

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percent of patients aged 18 years and older undergoing cardiac surgery who received preoperative prophylactic antibiotics recommended for the operation.
Numerator Statement: Number of patients undergoing cardiac surgery who received a first generation or second generation cephalosporin prophylactic antibiotic (e.g., cefazolin, cefuroxime, cefamandole) preoperatively or in the event of a documented allergy, an alternate antibiotic choice (e.g., vancomycin, clindamycin) was ordered and administered preoperatively.
Denominator Statement: Number of patients undergoing cardiac surgery
Exclusions: Exclusions include:
- Patients who had a principal diagnosis suggestive of preoperative infectious diseases
- Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope
- Patients enrolled in clinical trials
- Patients with documented infection prior to surgical procedure of interest
- Patients who expired perioperatively
- Patients who were receiving antibiotics more than 24 hours prior to surgery
- Patients who were receiving antibiotics within 24 hours prior to arrival
- Patients who did not receive any antibiotics before or during surgery, or within 24 hours after anesthesia end time (i.e., patient did not receive prophylactic antibiotics)
- Patients who did not receive any antibiotics during this hospitalization

This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions. AbxSelect is marked "Exclusion"
Adjustment/Stratification: no risk adjustment necessary N/A N/A
Level of Analysis: Clinicians: Group, Facility/ Agency, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States
Type of Measure: Process
Data Source: Registry data
Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611

Steering Committee Recommendation for Endorsement: Conditional Y-19; N-0; A-0
Rationale: The Committee affirmed that the seriousness of infections following these procedures makes this measure and its focus important to track and agreed that 92 percent performance indicates room for continued improvement.

Steering Committee Comments:
This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0126*: Selection of antibiotic prophylaxis for cardiac surgery patients; e*ndorsed measure 0268*: Selection of prophylactic antibiotic: First or second generation cephalosporin; and m*aintenance measure 0528*: Prophylactic antibiotic selection for surgical patients. Discussion of the three measures is included here. The Steering Committee determined there were no competing measures in the group. Members made no recommendations for harmonization of measure 0126 which is limited to cardiac surgery and is derived from registry data. Members requested that measures 0268 and 0528 be combined into a single measure from which the cephalosporin data for individual clinicians required by 0268 could be reported as a subset. For the measure not within the current project (AMA-PCPI measure 0268), NQF staff will relay the request of the Committee for developer action as they update and test the measure.

1. Importance to Measure and Report: Y-19; N-0
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The evidence indicated that the use of prophylactic antibiotics can decrease the incidence of mediastinitis, which ranges between 0.25 percent and 4 percent. The seriousness of infection in the population measured suggests that even at 92 percent performance, additional improvement should be expected and sought.

2. Scientific Acceptability of Measure Properties: C-15; P-4; M-0; N-0
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The measure focus on prophylaxis and measure specifications were considered appropriate and valid.

3. Usability: C-17; P-2; M-0; N-0
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing

0126 Selection of antibiotic prophylaxis for cardiac surgery patients
measures) Rationale: The measure has been in use since 2007 and is publicly reported on the STS and Consumers Union websites.
4. Feasibility: C-18; P-1; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The measure was considered feasible based on its continued use over time.

0128 Duration of antibiotic prophylaxis for cardiac surgery patients
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing cardiac surgery whose prophylactic antibiotics were discontinued within 48 hours after surgery end time Numerator Statement: Number of patients undergoing cardiac surgery whose prophylactic antibiotics were discontinued within 48 hours after surgery end time Denominator Statement: Number of patients undergoing cardiac surgery Exclusions: Exclusions: -Patients who had a principal diagnosis suggestive of preoperative infectious diseases -Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope -Patients enrolled in clinical trials -Patients with documented infection prior to surgical procedure of interest -Patients who expired perioperatively -Patients who were receiving antibiotics more than 24 hours prior to surgery -Patients who were receiving antibiotics within 24 hours prior to arrival -Patients who did not receive any antibiotics during this hospitalization -Patients with reasons to extend antibiotics This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians: Group, Facility/ Agency, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States Type of Measure: Process Data Source: Registry data Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Conditional Y-17, N-2; A-0 Pending final recommendation. Rationale: The measure was considered important due to the potential for prolonged antibiotic use and the percent of antimicrobial resistance.
Steering Committee Follow-up: This was one of four related measures considered for potential harmonization. The four included: m*aintenance measure 0529*: Prophylactic antibiotics discontinued within 24 hours after surgery end time; e*ndorsed measure 0637*: Discontinuation of prophylactic antibiotics (cardiac procedures); m*aintenance measure 0128*: Duration of antibiotic prophylaxis for cardiac surgery patients; and e*ndorsed measure 0271*: Discontinuation of prophylactics antibiotics (non-cardiac procedures). Discussion of the four measures is included here. The Steering Committee determined there were no competing measures in the group. Members requested that the developers evaluate the extent to which harmonization of the four measures could be accomplished. They asked that initial focus be on refining the exclusions to ensure they capture the same information and that end times of 24 and 48 hours be examined in terms of whether there are cardiac surgeries for which the different end times are specifically indicated and if so that they be specified for capture within the relevant measures. Also, members asked that the laparoscopy exclusion be removed from Measure 0128. For those measures not within the current project (AMA-PCPI measures 0637 and 0271), NQF staff will relay the requests of the Committee for their action as they update and test the measures.
1. Importance to Measure and Report: Y-18, N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The measure noted a performance gap in appropriate antibiotic administration, which can increase the incidence of deep sternal wound infection or antimicrobial resistance.
2. Scientific Acceptability of Measure Properties: C-10; P-6; M-2; N-1 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee debated the time period for antibiotic discontinuation reviewing the merits of 48 hours versus 24 hours.
3. Usability: C-13; P-6; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure will be reported as part of a composite in the future.

0128 Duration of antibiotic prophylaxis for cardiac surgery patients

4. Feasibility: C-11; P-8; M-0; N-0

(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)

Rationale: The measure presented minimal evidence of costs.

0125 Timing of antibiotic prophylaxis for cardiac surgery patients

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Percent of patients aged 18 years and older undergoing cardiac surgery who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if receiving vancomycin or fluoroquinolone)

Numerator Statement: Number of patients undergoing cardiac surgery patients who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if vancomycin or fluoroquinolone)

Denominator Statement: Number of patients undergoing cardiac surgery

Exclusions: Cases are removed from the denominator if the patient had a documented contraindication or rationale for not administering antibiotic in medical record.

Other exclusions include:

-Patients who had a principal diagnosis suggestive of preoperative infectious diseases
-Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope
-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
-Patients who were receiving antibiotics within 24 hours prior to arrival

This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions.

Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure.

Level of Analysis: Clinicians : Group, Facility/ Agency, Population : Counties or cities, Population : National, Population : Regional/ network, Population : states

Type of Measure: Process

Data Source: Registry data

Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611

Steering Committee Recommendation for Endorsement: Conditional Y-17; N-2; A-0

Rationale: The evidence supporting the measure was considered strong.

If applicable, Conditions/Questions for Developer:

1. 1c.5 Rating of Strength/Quality of Evidence: Address the rating of evidence.
2. 2a.1 Numerator Statement: Provide the exact timing of the prophylactic antibiotic.

Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization.

Developer Response:

1. This is addressed in the measure submission form.
2. Exact timing was provided in the original measure submission form.

Steering Committee Follow-up:

1. The Steering Committee requested additional information on the gaps and the link to outcomes, noting that individual measures may not have the effect on SSI rates that bundles can. Members also stated that antibiotic stewardship should be addressed. With developer response, the Committee agreed that the developer provided an adequate response to its questions.
2. This was one of five related measures considered for potential harmonization. The five included: m*aintenance measure 0125*: Timing of antibiotic prophylaxis for cardiac surgery patients; e*ndorsed measure 0269*: Timing of prophylactic antibiotics-administering physician; e*ndorsed measure 0270*: Timing of antibiotic prophylaxis-ordering physician; m*aintenance measure 0527*: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1; and e*ndorsed measure: 0472*: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery-cesarean section. Discussion of the five measures is included here. The Steering Committee requested that the developer of measures 0270 and 0269, neither of which are under consideration in this project, be approached by NQF staff to determine the current state of these measures and encourage them to consider combining them into a single measure that focuses on administration. Based on their opinion that timing of antibiotics administration prior to surgical incision, including for cardiac surgery, should not be different, Members asked that the developers of the five measures be asked to collaborate on the potential for combining the measures into a single measure that most closely mirrors measure 0527 to the extent possible. As part of that effort, they asked that the developer of measure 0472 provide information about any differences that would make administration of antibiotic at delivery unique. They did not view incision for cesarean unique With respect to measure 0125, they asked that the developer provide information about whether registry data would provide significantly different outcomes than administrative/claims data across institutions. For the measures not within the current project (AMA-PCPI measure 0269 and 270 and Mass General measure 0472), NQF staff will relay the request of the Committee for their consideration and feedback.

0125 Timing of antibiotic prophylaxis for cardiac surgery patients
1. Importance to Measure and Report: Y-17; N-2 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee noted controversy regarding the one hour timeframe for antibiotic prophylaxis. The performance gap for the measure was considered small but the outcome of mediastinitis and potentially death suggests measuring continued improvement effort is warranted.
2. Scientific Acceptability of Measure Properties: C-11; P-8; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee noted that laparoscopic procedures were excluded but in the future would be included in the measure.
3. Usability: C-13; P-6; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The Committee indicated that there were similar measures that may need to be harmonized including: #0269: Timing of prophylactic antibiotics - administering physician #0270: Timing of antibiotic prophylaxis- ordering physician #0472: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section #0527: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1.
4. Feasibility: C-15; P-4; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: While data for the measure is drawn from registry, the measure was considered feasible.

0527 Prophylactic antibiotic received within 1 hour prior to surgical incision
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision. Patients who received vancomycin or a fluoroquinolone for prophylactic antibiotics should have the antibiotics initiated within two hours prior to surgical incision. Due to the longer infusion time required for vancomycin or a fluoroquinolone, it is acceptable to start these antibiotics within two hours prior to incision time. Numerator Statement: Number of surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision (two hours if receiving vancomycin, in Appendix C, Table 3.8, or a fluoroquinolone, in Appendix C, Table 3.10). Denominator Statement: All selected surgical patients with no evidence of prior infection. Table 5.10 is the complete table of selected major surgeries Exclusions: Patients less than 18 years of age Patients who have a Length of Stay greater than 120 days 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 whose ICD-9-CM principal procedure was performed entirely by Laparoscope 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 Patients who were receiving antibiotics more than 24 hours prior to surgery Patients who were receiving antibiotics within 24 hours prior to arrival (except colon surgery patients taking oral prophylactic antibiotics) Adjustment/Stratification: no risk adjustment necessary/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 be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-1 are 5.01 to 5.08. Level of Analysis: Can be measured at all levels, Facility/ Agency, Population: National, Program: QIO Type of Measure: Process Data Source: Electronic administrative data/ claims, Electronic Health/ Medical Record, Paper medical record/ flow-sheet 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 QualityNet.org at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093 Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Boulevard , Mail Stop S3-01-02 | Baltimore | Maryland | 21244-1850

0527 Prophylactic antibiotic received within 1 hour prior to surgical incision

Steering Committee Recommendation for Endorsement: Conditional Y-17; N-1; A-0

Rationale: The measure focus and specifications are appropriate. Performance presents disparity data that demonstrates performance gaps across subpopulations.

Steering Committee Follow-up:

This was one of five related measures considered for potential harmonization. The five included: m*aintenance measure 0125*: Timing of antibiotic prophylaxis for cardiac surgery patients; e*ndorsed measure 0269*: Timing of prophylactic antibiotics-administering physician; e*ndorsed measure 0270*: Timing of antibiotic prophylaxis-ordering physician; m*aintenance measure 0527*: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1; and e*ndorsed measure: 0472*: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery-cesarean section. Discussion of the five measures is included here. The Steering Committee requested that the developer of measures 0270 and 0269, neither of which are under consideration in this project, be approached by NQF staff to determine the current state of these measures and encourage them to consider combining them into a single measure that focuses on administration. Based on their opinion that timing of antibiotics administration prior to surgical incision, including for cardiac surgery, should not be different. Members asked that the developers of the five measures be asked to collaborate on the potential for combining the measures into a single measure that, to the extent possible, closely mirrors measure 0527. As part of that effort, they asked that the developer of measure 0472 provide information about any differences that would make administration of antibiotic at delivery unique. They did not view incision for cesarean unique. With respect to measure 0125, they asked that the developer provide information about whether registry data would provide significantly different outcomes than administrative/claims data across institutions. For the measures not within the current project (AMA-PCPI measure 0269 and 270 and Massachusetts General measure 0472), NQF staff will relay the request of the Committee for their action and feedback.

1. Importance to Measure and Report: Y-19; N-0

(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)

Rationale: The measure focus is supported by the evidence. While the performance gap has been reduced over time, the measure continues to demonstrate a performance gap that could be improved. It was also noted that the gap still exists for general surgeries compared with cardiac surgeries.

2. Scientific Acceptability of Measure Properties: C-13; P-6; M-0; N-0

(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)

Rationale: The measure focus and specifications are appropriate. The request that laparoscopic procedure be removed from the exclusions will become effective January 1, 2012.

3. Usability: C-14; P-5; M-0; N-0

(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)

Rationale: The measure has been widely used for some time; harmonization with the similar measures below should be considered:
#0125: Timing of antibiotic prophylaxis for cardiac surgery patients
#0269: Timing of prophylactic antibiotics - administering physician
#0270: Timing of antibiotic prophylaxis- ordering physician
#0472: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.

4. Feasibility: C-18; P-1; M-0; N-0

(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)

Rationale: The Committee stated that the measure was feasible based on the data required and its record of use.

0529 Prophylactic antibiotics discontinued within 24 hours after surgery end time

For More Information: Complete Measure Submission; Meeting/Call Proceedings

Description: Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time (48 hours for CABG or Other Cardiac Surgery). 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 who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes)

0529 Prophylactic antibiotics discontinued within 24 hours after surgery end time

Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope
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 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 did not receive any antibiotics during this hospitalization.
Patients who received urinary antiseptics only (as defined in Appendix C, Table 3.11)
Patients with Reasons to Extend Antibiotics.
Adjustment/Stratification: no risk adjustment necessary/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 be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-3 are 5.01 to 5.08
Level of Analysis: Facility/ Agency, Population: National, Can be measured at all levels, Program: QIO
Type of Measure: Process
Data Source: Electorinc administrative data/ claims; Electronic Health/ Medical Record; Paper medical record/ flow-sheet
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 http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093
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Steering Committee Recommendation for Endorsement: Conditional Y-19; N-0; A-0 Pending final recommendation.
Rationale: The measure is important and provides an appropriate timeline for discontinuing antibiotic therapy promoting appropriate use of antibiotics.

Steering Committee Comments:
This was one of four related measures considered for potential harmonization. The four included: m*aintenance measure 0529*: Prophylactic antibiotics discontinued within 24 hours after surgery end time; e*ndorsed measure 0637*: Discontinuation of prophylactic antibiotics (cardiac procedures); m*aintenance measure 0128*: Duration of antibiotic prophylaxis for cardiac surgery patients; and e*ndorsed measure 0271*: Discontinuation of prophylactics antibiotics (non-cardiac procedures). Discussion of the four measures is included here. The Steering Committee determined there were no competing measures in the group. Members requested that the developers evaluate the extent to which harmonization of the four measures could be accomplished. They asked that initial focus be on refining the exclusions to ensure they capture the same information and that end times of 24 and 48 hours be examined in terms of whether there are cardiac surgeries for which the different end times are specifically indicated and if so that they be specified for capture within the relevant measures. Also, members asked that the laparoscopy exclusion be removed from Measure 0128. For those measures not within the current project (AMA-PCPI measures 0637 and 0271), NQF staff will relay the requests of the Committee for their consideration as they update and test the measures.

1. Importance to Measure and Report: Y-19; N-0
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The measure has a small performance gap but includes evidence that disparities among subpopulations demonstrate performance below 90 percent.

2. Scientific Acceptability of Measure Properties: C-14; P-4; M-1; N-0
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: The Committee discussed single dose prophylaxis compared with 24 hour prophylaxis and no post-operative prophylaxis noting the timeframe of this measure is standard at present. They also discussed requesting the measure's 24 hour timeframe to be changed to shorten duration when the evidence supports. The laparoscopic exclusion is removed effective January 1, 2012.

3. Usability: C-18; P-1; M-0; N-0
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: The measure is currently in use and is part of the Surgical Care Improvement Project (SCIP) measure set.

4. Feasibility: C-16; P-3; M-0; N-0
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: The measure relies on administrative claims data.

NATIONAL QUALITY FORUM

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Table of Similar, or Competing Measures and those with potential for Harmonization

AAA Repair

AHRQ and Leapfrog measures have similar measure focus though view differently which combines volume and mortality (i.e., mortality vs. combined volume and mortality to predict survival) and use administrative/claims data; level of analysis for both is facility.
SVS measures have a focus similar to that of the AHRQ mortality measure and use registry data. Level of analysis can be at group, individual or facility level.

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
Status	Currently undergoing maintenance review **Notes: 0357 and 0359 reported as a pair. Importance Y-10; N-11 related to lack of stratification; vote on remaining criteria pending developer response to requests related to methods changes for stratification by open and EVAR and RA model clarification. Developer asked to meet with SVS to harmonize or blend AAA measures**	Currently undergoing maintenance review **Notes: 0357 and 0359 reported as a pair Importance Y-10; N-11 related to lack of stratification; vote on remaining criteria pending developer response to requests related to methods changes for stratification by open and EVAR and RA model clarification. Developer asked to meet with SVS to harmonize or blend AAA measures**	Endorsed 9/2010	Currently undergoing review **Notes: Criteria met N-11, Y-9; SC requests to permit further consideration addressed, remaining concern documentation and tracking of aneurysm size outside registry**	Currently undergoing review **Notes: Criteria met N-12, Y-9; SC requests to permit further consideration addressed, remaining concern documentation and tracking of aneurysm size outside registry**
Steward	Agency for Healthcare Research and Quality	Agency for Healthcare Research and Quality	Leapfrog Group	Society for Vascular Surgery	Society for Vascular Surgery
Description	Count of discharges with a procedure code of provider-level AAA repair.	Percent of discharges with procedure code of AAA repair with an in-hospital death.	A reliability adjusted measure of AAA repair performance that optimally combines two important domains: AAA hospital volume and AAA operative mortality, to provide predictions on hospital AAA survival rates in patients age 18 and over.	Percentage of asymptomatic patients undergoing open repair of small abdominal aortic aneurysms (AAA) who die while in hospital. This measure is proposed for both hospitals and individual providers.	Percentage of patients undergoing elective endovascular repair of small asymptomatic abdominal aortic aneurysms (AAA) who die while in hospital. This measure is proposed for both hospitals and individual providers.

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
Type of Measure	Structure/management	Outcome	Outcome	Outcome	Outcome
Numerator	Discharges, age 18 years and older, with an abdominal aortic aneurysm repair procedure and a primary or secondary diagnosis of AAA. Time window: Time window can be determined by user, but is generally a calendar year.	Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator. Time window: Time window can be determined by user, but is generally a calendar year.	Survival rate for patients age 18 and over without AAA rupture who undergo an AAA repair. Time Window: During the hospital admission	Mortality following elective open repair of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting	Mortality following elective endovascular AAA repair of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting
Numerator Details	Discharges, age 18 years and older, with an abdominal aortic aneurysm repair procedure and a primary or secondary diagnosis of AAA in any field. ICD-9-CM AAA procedure codes: 3834 AORTA RESECTION & ANAST 3844 RESECT ABDM AORTA W REPL 3864 EXCISION OF AORTA 3971 ENDO IMPLANT OF GRAFT IN AORTA ICD-9-CM AAA diagnosis codes: 4413 RUPT ABD AORTIC	Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.	For the observed mortality, the hospital submits the observed deaths for AAA cases in patients without rupture as identified using the denominator and exclusion codes.	ANY registry that includes hospitalization details, AAA diameter and discharge status is required to identify patients for numerator inclusion. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE) are examples of registries that record such information but the measure is not limited to these registries. Patients who died in hospital following elective open infrarenal AAA repair if their aneurysm was asymptomatic and small (< 6cm dia in men, <5.5 cm dia in women, judged by preoperative imaging (CT, MR or ultrasound)).	A registry that includes hospitalization details, AAA diameter and discharge status is required to identify patients for numerator inclusion. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE) registries records such information. Patients who died in hospital following endovascular infrarenal AAA repair (EVAR) if their asymptomatic aneurysm was repaired electively and was asymptomatic and small (< 6cm dia in men, <5.5 cm dia in women, judged by preoperative imaging (CT, MR or ultrasound)).

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	ANEURYSM 4414 ABDOM AORTIC ANEURYSM Exclude cases: • MDC 14 (pregnancy, childbirth, and puerperium)				
Denominator	N/A	Discharges, age 18 years and older, with ICD-9-CM AAA repair code procedure and a diagnosis of AAA in any field. Time window: Time window can be determined by user, but is generally a calendar year.	All hospital patients age 18 and over without rupture who had an AAA repair. Time Window: 12 months	All elective open repairs of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting	All elective endovascular repairs of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting
Denominator Categories	Female, Male; 18 and older	Female, Male; 18 and older		Female, Male; 18 years or older	Female, Male; 18 years or older
Denominator Details	N/A	Discharges, age 18 years and older, with ICD-9-CM AAA repair code procedure and a diagnosis of AAA in any field. ICD-9-CM AAA repair procedure codes: 3834 AORTA RESECTION & ANAST 3844 RESECT ABDM AORTA W REPL 3864 EXCISION OF AORTA 3971 ENDO IMPLANT OF GRAFT IN AORTA	For the volume predicted mortality, hospitals count the number of all AAA repair cases using the following procedure codes. ICD-9-CM Procedure Codes for AAA repair 3834 Aorta Resection & Anast 3844 Resection Abdominal Aorta with replacement 3864 Excision of aorta 3925 Aorta-iliac-femoral bypass 3971 Endo Implant of Graft in Aorta For the observed mortality	ANY registry that includes hospitalization details, AAA diameter and discharge status is required to identify patients for denominator inclusion. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE) are examples of registries that record such information but the measure is not limited to these registries. Patients who underwent elective open AAA repair are included if their aneurysm was asymptomatic and	A registry that includes hospitalization details, AAA diameter and discharge status is required to identify patients for denominator inclusion. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE) registries records such information. Patients who underwent endovascular AAA repair are included if their aneurysm was asymptomatic and small (< 6cm dia in men, <5.5 cm dia in women, judged by preoperative imaging).

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
		ICD-9-CM AAA diagnosis codes: 4413 RUPT ABD AORTIC ANEURYSM 4414 ABDOM AORTIC ANEURYSM Exclude cases: • missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) • transferring to another short-term hospital (DISP=2) • MDC 14 (pregnancy, childbirth, and puerperium)	hospitals count the number of AAA repair cases that also have a diagnosis of unruptured AAA using the following codes. ICD-9CM Codes for AAA without rupture 441.4 Dissection of aorta aneurysm unspecified site 441.7 Thoracoabdominal aneurysm without rupture 441.9 Aortic aneurysm of unspecified site without rupture	small (< 6cm dia in men, <5.5 cm dia in women, judged by preoperative imaging (CT, MR or ultrasound)).	
Exclusions	Numerator exclusions • MDC 14 (pregnancy, childbirth, and puerperium)	Exclude cases: • missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) • transferring to another short-term hospital (DISP=2) • MDC 14 (pregnancy, childbirth, and puerperium)	Patients with ruptured aneurysm or thoracoabdominal aneurysms.	> 6 cm minor diameter - men > 5.5 cm minor diameter - women Symptomatic AAAs that required urgent/emergent (non-elective) repair	> 6 cm diameter - men > 5.5 cm diameter – women Symptomatic AAAs that required urgent/emergent (non-elective) repair
Exclusion Details	This volume measure does	Exclude cases:	For the count of all AAA	Patients undergoing non-	Patients undergoing non-

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	not have a denominator.	• missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) • transferring to another short-term hospital (DISP=2) • MDC 14 (pregnancy, childbirth, and puerperium)	procedures exclude: 3845 Thoracoabdominal procedures. For the observed mortality domain, exclude all Thoracic Diagnosis Codes and dissection codes for AAA 441.0x General code 441.1 Thoracic aneurysm ruptured 441.2 Thoracic aneurysm without rupture 441.3 Abdominal aneurysm ruptured 441.5 Aortic aneurysm of unspecified site ruptured 441.6 Thoracoabdominal aneurysm ruptured. Mortality Domain does exclude thoracic aneurysm Procedure Code: 38.45 Resection of vessel with replacement, other thoracic vessels.	elective open repair of symptomatic AAAs or those with AAAs larger than the diameters noted above.	elective open repair of symptomatic AAAs or those with AAAs larger than the diameters noted above.
Risk Adjustment	No risk adjustment necessary	Risk adjustment method widely or commercially available. The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, age in years (in 5-year age groups), All Patient Refined-Diagnosis Related Group (APR-DRG) and	We used an empirical Bayes approach to combine mortality rates with information on hospital volume at each hospital. In traditional empirical Bayes methods, a point estimate (e.g., mortality rate observed at a hospital) is adjusted for reliability by shrinking it towards the overall mean (e.g., overall	No risk adjustment necessary	No risk adjustment necessary

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
		APR-DRG risk-of-mortality subclass. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate. Risk adjustment factors: sex age 18-24; age 25-29; age 30-34; age 35-39; age 40-44; age 45-49; age 50-54; age 55-59; age 60-64; age 65-69; age 70-74; age 75-79; age 80-84; age 85+ each age category*female ADRG 1731 (other vascular procedures-minor) ADRG 1732 (other vascular procedures-moderate) ADRG 1733 (other vascular procedures-major) ADRG 1734 (other vascular procedures-extreme)	mortality rate in the population). We modified this traditional approach by shrinking the observed mortality rate back toward the mortality rate expected given the volume at that hospital—we refer to this as the "volume-predicted mortality". With this approach, the observed mortality rate is weighted according to how reliably it is estimated, with the remaining weight placed on the information regarding hospital volume [volume-predicted mortality]. Risk adjustment for patient characteristics is not used because in sensitivity analysis, composite measures based on an unadjusted mortality input and a risk-adjusted mortality input had a correlation of (.95) and thus were equally good at predicting future performance. The formula for calculating the survival predictor has two components, one is a volume predicted mortality rate, and the second is an observed mortality rate. The volume predicted		

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
		ADRG 1691 (major thoracic and abdominal vascular procedures-minor) ADRG 1692 (major thoracic and abdominal vascular procedures-moderate) ADRG 1693 (major thoracic and abdominal vascular procedures-major) ADRG 1694 (major thoracic and abdominal vascular procedures-extreme ADRG 9999 (other)	mortality rate reflects the hospitals experience performing AAA surgeries (thus, it includes all AAA surgeries) and uses mortality for all hospitals at that specific volume to create the volume predicted mortality. The input data from the hospitals for this domain is a volume count of all AAAs performed in the hospital. The second domain is the observed mortality, for this domain the population is the group of AAA cases without rupture, the data needed for this domain is the number of observed deaths occurring for AAA cases without rupture, within the inpatient setting. The general composite measure calculation is as follows: Predicted Survival = 1-Predicted Mortality Predicted Mortality = (weight)*(mortality) + (1-weight)*(volume predicted mortality) Volume predicted mortality* = intercept - coefficient*ln(caseload),		

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
			where the intercepts and coefficients are derived from regression using the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure). *Any negative values are reset to "0" Weight = mortality signal/(mortality signal + [mortality sigma/caseload]), where mortality signal and sigma are derived from the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure). Method: We used an empirical Bayes approach to combine mortality rates with information on hospital volume at each hospital. In traditional empirical Bayes methods, a point estimate (e.g., mortality rate observed at a hospital) is adjusted for reliability by shrinking it towards the overall mean (e.g., overall mortality rate in the population). We modified this traditional approach by shrinking the observed mortality rate back toward		

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
			the mortality rate expected given the volume at that hospital—we refer to this as the "volume-predicted mortality". With this approach, the observed mortality rate is weighted according to how reliably it is estimated, with the remaining weight placed on the information regarding hospital volume [volume-predicted mortality]. Risk adjustment for patient characteristics is not used because in sensitivity analysis, composite measures based on an unadjusted mortality input and a risk-adjusted mortality input had a correlation of (.95) and thus were equally good at predicting future performance. The formula for calculating the survival predictor has two components, one is a volume predicted mortality rate, and the second is an observed mortality rate. The volume predicted mortality rate reflects the hospitals experience performing AAA surgeries (thus, it includes all AAA surgeries) and uses		

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
			mortality for all hospitals at that specific volume to create the volume predicted mortality. The input data from the hospitals for this domain is a volume count of all AAAs performed in the hospital. The second domain is the observed mortality, for this domain the population is the group of AAA cases without rupture, the data needed for this domain is the number of observed deaths occurring for AAA cases without rupture, within the inpatient setting. The general composite measure calculation is as follows: Predicted Survival = 1-Predicted Mortality Predicted Mortality = (weight)*(mortality) + (1-weight)*(volume predicted mortality) Volume predicted mortality* = intercept - coefficient*ln(caseload), where the intercepts and coefficients are derived from regression using the NIS data and the caseload comes from the Leapfrog		

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
			Hospital Survey (answer to question #1 for each high-risk procedure). *Any negative values are reset to "0" Weight = mortality signal/(mortality signal + [mortality sigma/caseload]), where mortality signal and sigma are derived from the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure).		
Stratification	The stratification of the denominator for open vs. endovascular and ruptured vs. unruptured involve the following codes in the denominator specification: Abdominal Aortic Aneurysm Repair (PRAAAR) Volume Indicator IQI #4 Mortality (post-op) Indicator IQI #11 AAA Repair ICD-9-CM Procedure Codes: PROC FORMAT; OPEN VALUE $PRAAARP 3834 = 1 /AORTA RESECTION & ANAST 3844 = 1 / RESECT ABDM	Gender, age (5-year age groups), race / ethnicity, primary payer, custom The stratification of the denominator for open vs. endovascular and ruptured vs. unruptured involves the following codes in the denominator specification: Abdominal Aortic Aneurysm Repair (PRAAAR) Volume Indicator / IQI #4 Mortality (post-op) Indicator / IQI #11 AAA Repair ICD-9-CM Procedure Codes: PROC FORMAT OPEN VALUE $PRAAARP 3834 = 1 /AORTA RESECTION & ANAST 3844 = 1 /RESECT ABDM		N/A	N/A

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	AORTA W REPL 3864 = 1 /EXCISION OF AORTA/ OTHER = 0 ENDOVASCULAR VALUE $PRAAA2P 3971= 1 /ENDO IMPL GRFT ABD AORTA/ OTHER = 0 Include Only: AAA ICD-9-CM Diagnosis Codes: RUPTURED VALUE $PRAAARD 4413 = 1 / RUPT ABD AORTIC ANEURYSM / OTHER = 0 UNRUPTURED VALUE $PRAAA2D 4414 = 1 / ABDOM AORTIC ANEURYSM / OTHER = 0 The following analytic results were achieved with the specification modification: Table 1. Reference Population Rate and Volume Open, Ruptured Open, Un-ruptured Endovascular, Ruptured Endovascular, Un-ruptured Original (Composite) Population Rate 2004 39.04% 4.43% 29.11% 1.05% 6.09%	AORTA W REPL 3864 = 1 /EXCISION OF AORTA/ OTHER = 0 ENDOVASCULAR VALUE $PRAAA2P 3971 = 1/ENDO IMPL GRFT ABD AORTA/ OTHER = 0 Include Only: AAA ICD-9-CM Diagnosis Codes: RUPTURED VALUE $PRAAARD 4413 = 1 /RUPT ABD AORTIC ANEURYSM/ OTHER = 0 UNRUPTURED VALUE $PRAAA2D 4414 = 1 /ABDOM AORTIC ANEURYSM/ OTHER = 0 The following analytic results were achieved with the specification modification: Table 1. Reference Population Rate and Volume Open, Ruptured Open, Un-ruptured Endovascular, Ruptured Endovascular, Un-ruptured Original(Composite) Population Rate 2004 39.04% 4.43% 29.11% 1.05% 6.09% 2005 41.10% 4.45% 28.06% 1.03% 5.76% 2006 41.11% 4.53% 29.18% 0.93% 5.22%			

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	2005 41.10% 4.45% 28.06% 1.03% 5.76% 2006 41.11% 4.53% 29.18% 0.93% 5.22% 2007 39.77% 4.48% 24.84% 1.16% 4.88% 2008 38.27% 4.82% 27.17% 1.02% 4.61% %Change -2.0% 8.5% -6.9% -2.9% -27.9% Volume 2004 3,241 15,723 456 17,438 36,768 2005 2,876 12,941 568 19,981 36,292 2006 2,652 11,152 647 22,778 37,156 2007 2,445 9,693 799 25,101 37,970 2008 2,352 8,851 1,068 28,103 40,293 %Change -32.1% -57.5% 85.1% 47.7% 9.2% Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP) Table 2. Hospital Discrimination, 2008 Open, Ruptured Open, Un-ruptured Endovascular, Ruptured Endovascular, Un-ruptured Original (Composite) Hospitals 1,015 1,343 507 1,439 1,711 Best Performing 24.74% 10.20% 12.91% 0.00%	2007 39.77% 4.48% 24.84% 1.16% 4.88% 2008 38.27% 4.82% 27.17% 1.02% 4.61% %Change -2.0% 8.5% -6.9% -2.9% -27.9% Volume 2004 3,241 15,723 456 17,438 36,768 2005 2,876 12,941 568 19,981 36,292 2006 2,652 11,152 647 22,778 37,156 2007 2,445 9,693 799 25,101 37,970 2008 2,352 8,851 1,068 28,103 40,293 %Change -32.1% -57.5% 85.1% 47.7% 9.2% Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP) Table 2. Hospital Discrimination, 2008 Open, Ruptured Open, Un-ruptured Endovascular, Ruptured Endovascular, Un-ruptured Original(Composite) Hospitals 1,015 1,343 507 1,439 1,711 Best Performing 24.74% 10.20% 12.91% 0.00% 4.64% Worst Performing 26.53% 24.26% 39.11% 0.75% 5.52%			

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	4.64% Worst Performing 26.53% 24.26% 39.11% 0.75% 5.52% 5th 32.15% 2.25% 20.14% 0.16% 3.02% 10th 33.42% 2.67% 21.52% 0.24% 3.32% 25th 35.60% 3.49% 23.98% 0.46% 3.86% Median 38.14% 4.59% 26.91% 0.84% 4.53% 75th 40.79% 5.90% 30.08% 1.39% 5.27% 90th 43.28% 7.27% 33.14% 2.04% 6.00% 95th 44.82% 8.18% 35.06% 2.52% 6.47% Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP). Best performing is below the median at 95% probability; worst performing is above the median at 95% probability. Table 2A. Model Covariates, 2008 Open, Ruptured Open, Un-ruptured Endovascular, Ruptured Endovascular, Un-ruptured Original (Composite) Frequency N 2,284 8,729 1,038 27,989	5th 32.15% 2.25% 20.14% 0.16% 3.02% 10th 33.42% 2.67% 21.52% 0.24% 3.32% 25th 35.60% 3.49% 23.98% 0.46% 3.86% Median 38.14% 4.59% 26.91% 0.84% 4.53% 75th 40.79% 5.90% 30.08% 1.39% 5.27% 90th 43.28% 7.27% 33.14% 2.04% 6.00% 95th 44.82% 8.18% 35.06% 2.52% 6.47% Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP). Best performing is below the median at 95% probability; worst performing is above the median at 95% probability. Table 2A. Model Covariates, 2008 Open, Ruptured Open, Un-ruptured Endovascular, Rupture Endovascular, Un-ruptured Original(Composite) Frequency N 2,284 8,729 1,038 27,989 39,963 Female 23.5% 27.3% 21.5% 17.8% 20.3% 18 - 24 0.0% 0.0% 0.0% 0.0% 0.0%			

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	39,963 Female 23.5% 27.3% 21.5% 17.8% 20.3% 18 - 24 0.0% 0.0% 0.0% 0.0% 0.0% 25 - 29 0.1% 0.1% 0.0% 0.0% 0.0% 30 - 34 0.0% 0.1% 0.0% 0.0% 0.0% 35 - 39 0.0% 0.1% 0.1% 0.0% 0.1% 40 - 44 0.1% 0.5% 0.0% 0.1% 0.1% 45 - 49 0.8% 0.9% 0.8% 0.3% 0.5% 50 - 54 1.9% 2.4% 1.8% 1.2% 1.5% 55 - 59 4.7% 6.3% 5.8% 3.5% 4.3% 60 - 64 11.0% 12.5% 9.0% 9.4% 10.2% 70 - 74 18.7% 21.4% 14.9% 20.1% 20.2% 75 - 79 19.7% 20.5% 16.4% 22.2% 21.6% 80 - 84 17.3% 11.5% 19.7% 17.3% 16.1% 85 - high 10.0% 4.3% 16.8% 9.4% 8.5% 169-1 0.0% 26.7% 0.1% 0.6% 6.3% 169-2 0.0% 30.2% 0.0% 1.1% 7.3% 169-3 0.1% 21.1% 0.0% 0.5% 5.0% 169-4 88.4% 14.5% 6.2% 0.4% 8.6% 173-2 0.0% 0.0% 0.0% 35.1% 24.6%	25 - 29 0.1% 0.1% 0.0% 0.0% 0.0% 30 - 34 0.0% 0.1% 0.0% 0.0% 0.0% 35 - 39 0.0% 0.1% 0.1% 0.0% 0.1% 40 - 44 0.1% 0.5% 0.0% 0.1% 0.1% 45 - 49 0.8% 0.9% 0.8% 0.3% 0.5% 50 - 54 1.9% 2.4% 1.8% 1.2% 1.5% 55 - 59 4.7% 6.3% 5.8% 3.5% 4.3% 60 - 64 11.0% 12.5% 9.0% 9.4% 10.2% 70 - 74 18.7% 21.4% 14.9% 20.1% 20.2% 75 - 79 19.7% 20.5% 16.4% 22.2% 21.6% 80 - 84 17.3% 11.5% 19.7% 17.3% 16.1% 85 - high 10.0% 4.3% 16.8% 9.4% 8.5% 169-1 0.0% 26.7% 0.1% 0.6% 6.3% 169-2 0.0% 30.2% 0.0% 1.1% 7.3% 169-3 0.1% 21.1% 0.0% 0.5% 5.0% 169-4 88.4% 14.5% 6.2% 0.4% 8.6% 173-2 0.0% 0.0% 0.0% 35.1% 24.6% 173-3 0.0% 0.0% 0.1% 7.6% 5.3% 173-4 0.0% 0.0% 84.4% 2.3% 3.8% MDC 5 11.5% 7.5% 9.2%			

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	173-3 0.0% 0.0% 0.1% 7.6% 5.3% 173-4 0.0% 0.0% 84.4% 2.3% 3.8% MDC 5 11.5% 7.5% 9.2% 2.1% 4.0% Transfer-in 14.5% 2.4% 18.5% 1.6% 2.9% Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP). APR-DRG 169 (MAJOR THORACIC & ABDOMINAL VASCULAR PROCEDURES); APR-DRG 173 (OTHER VASCULAR PROCEDURES) Table 2B. Model Covariates, 2008 Open, Ruptured Open, Un-ruptured Endovascular, Ruptured Endovascular, Un-ruptured Original (Composite) Odds Ratios Female 1.116 1.063 1.548* 1.386* 1.143* 18 - 24 25 - 29 30 - 34 35 - 39 40 - 44 45 - 49 0.538 0.634 0.387 50 - 54 0.445 0.483 1.761	2.1% 4.0% Transfer-in 14.5% 2.4% 18.5% 1.6% 2.9% Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP). APR-DRG 169 (MAJOR THORACIC & ABDOMINAL VASCULAR PROCEDURES); APR-DRG 173 (OTHER VASCULAR PROCEDURES) Table 2B. Model Covariates, 2008 Open, Ruptured Open, Un-ruptured Endovascular, Ruptured Endovascular, Un-ruptured Original (Composite) Odds Ratios Female 1.116 1.063 1.548* 1.386* 1.143* 18 - 24 25 - 29 30 - 34 35 - 39 40 - 44 45 - 49 0.538 0.634 0.387 50 - 54 0.445 0.483 1.761 0.637 55 - 59 0.547* 0.713 0.526 1.068 0.644* 60 - 64 0.910 0.814 1.048 1.613 0.999 70 - 74 1.721* 1.023 1.699 1.138 1.328* 75 - 79 1.804* 1.410 1.800*			

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
	0.637 55 - 59 0.547* 0.713 0.526 1.068 0.644* 60 - 64 0.910 0.814 1.048 1.613 0.999 70 - 74 1.721* 1.023 1.699 1.138 1.328* 75 - 79 1.804* 1.410 1.800* 1.862* 1.569* 80 - 84 2.941* 2.459* 2.346* 2.002* 2.499* 85 - high 4.225* 2.469* 2.052* 2.717* 3.006* 169-1 0.052* 41.786* 13.066* 169-2 0.070* 15.660* 13.998* 169-3 0.284* 71.019* 55.144* 169-4 1.375* 2.372* 1.587 173-2 1.576 1.470 173-3 32.328* 30.741* 173-4 0.789 MDC 5 1.000 1.000 1.000 1.000 1.000 Transfer-in 0.948 0.779 1.011 1.824* 1.251* C-statistic 0.659 0.868 0.626 0.942 0.940 Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP); * - significant at p<.05	1.862* 1.569* 80 - 84 2.941* 2.459* 2.346* 2.002* 2.499* 85 - high 4.225* 2.469* 2.052* 2.717* 3.006* 169-1 0.052* 41.786* 13.066* 169-2 0.070* 15.660* 13.998* 169-3 0.284* 71.019* 55.144* 169-4 1.375* 2.372* 1.587 173-2 1.576 1.470 173-3 32.328* 30.741* 173-4 0.789 MDC 5 1.000 1.000 1.000 1.000 1.000 Transfer-in 0.948 0.779 1.011 1.824* 1.251* C-statistic 0.659 0.868 0.626 0.942 0.940 Source: State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP); * - significant at p<.05			
Type Score	Count	Rate/proportion		Rate/proportion	Rate/proportion
Algorithm	The volume is the number of discharges with a diagnosis of, and a procedure for AAA.	Each indicator is expressed as a rate, is defined as outcome of interest / population at risk or		Identify denominator, exclude non-elective repair of symptomatic or ruptured patients and men with AAA	Identify denominator, exclude non-elective repair of symptomatic or ruptured patients and men with AAA

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
		numerator / denominator. The AHRQ Quality Indicators (AHRQ QI) software performs five steps to produce the rates. 1) Discharge-level data is used to mark inpatient records containing the outcome of interest and 2) the population at risk. For provider indicators, the population at risk is also derived from hospital discharge records; for area indicators, the population at risk is derived from U.S. Census data. 3) Calculate observed rates. Using output from steps 1 and 2, rates are calculated for user-specified combinations of stratifiers. 4) Calculate expected rates. Regression coefficients from a reference population database are applied to the discharge records and aggregated to the provider or area level. 5) Calculate risk-adjusted rate. Use the indirect standardization to account for case-mix. 6) Calculate smoothed rate. A Univariate shrinkage factor is applied to the risk-adjusted rates. The shrinkage estimate reflects a reliability adjustment unique to each indicator. Full information on calculation algorithms and specifications		>6 cm, and women with AAA >5.5, find number of deaths Outcome = deaths/ # cases	>6 cm, and women with AAA >5.5, find number of deaths Outcome = deaths/ # cases

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	**Maintenance Measure 0359**: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	**Endorsed Measure 0736:** Survival predictor for abdominal aortic aneurysm (AAA)	**New Candidate Standard 1523**: In-hospital mortality following elective open repair of small AAAs	**New Candidate Standard 1534**: In-hospital mortality following elective EVAR of small AAAs
		can be found at http://qualityindicators.ahrq.gov/IQI_download.htm			
Data Source	Electronic administrative data/claims	Electronic administrative data/claims	Electronic administrative data/claims	Registry data	Registry data
Level of Measurement /Analysis	Facility/agency	Facility/agency	Facility/agency	Clinicians: Individual, group; Facility/agency; Can be measured at all levels	Clinicians: Individual, group; Facility/agency; Can be measured at all levels
Care Settings	Hospital	Hospital	Hospital	Hospital	Hospital

Beta Blocker

STS measures have same focus and data source (registry).

CMS measures are similar in focus and similar to the STS measures; however for Measure 0284, population is not limited to CABG.

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
Status	Endorsed 5/2007	Currently undergoing maintenance review **Notes: Criteria met Y-21, N-0**	Endorsed 5/2007	Currently undergoing maintenance review **Notes: Criteria met Y-19, N-2 Developer was asked to further define "prior to arrival" specifying on "daily" beta blocker therapy prior to arrival.**
Steward	Society of Thoracic Surgeons	Society of Thoracic Surgeons	Centers for Medicare & Medicaid Services	Centers for Medicare & Medicaid Services
Description	Percentage of procedures for which the patient received Beta Blockers within 24 hours preceding surgery/ Total number of isolated CABG procedures.	Percent of patients undergoing isolated CABG who received beta blockers within 24 hours preceding surgery.	Percentage of patients undergoing CABG with documented pre-operative beta blockade who had a coronary artery bypass graft	Percentage of patients on beta blocker therapy prior to admission who received a beta blocker during the peri-operative period
Type of Measure	Process	Process	Process	Process
Numerator	Number of procedures for which the patient received Beta Blockers within 24 hours preceding surgery.	Number of procedures for which the patient received Beta Blockers within 24 hours preceding surgery.	Patients undergoing CABG with documented pre-operative beta blockade. 4115F Beta blocker administered within 24 hours prior to surgical incision	Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the peri- operative period. (The peri-operative period = 24 hours prior to surgical incision through discharge from post-anesthesia care/recovery area.
Numerator Details		Number of isolated CABG procedures in which preoperative beta blockers [MedBeta (STS Adult Cardiac Surgery Database Version 2.73, Sequence number 1710)] is marked "yes".		Data element: Beta-Blocker Perioperative
Denominator	Total number of isolated CABG procedures.	Total number of isolated CABG procedures.	Patients with coronary artery bypass graft. CPT codes: 33510, 33511, 33512, 33513, 33514, 33516, , 33533, 33534, 33535, 33536	All surgery patients on beta blocker therapy prior to arrival. NOTE: To be in the denominator, the patient must be on a beta-

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
				blocker prior to arrival. The case is excluded if the patient is not on a beta-blocker prior to arrival. Data Element Data Collection Question: Is there documentation that the patient was on a daily beta-blocker therapy prior to arrival? Yes/No Notes for Abstraction: • If there is documentation that the beta-blocker was taken daily at "home" or is a "current" medication, select "Yes". • If a beta-blocker is listed as a home medication without designation of how often or when it is taken, select "Yes". • If there is documentation that the beta-blocker is a home/current medication and additional documentation indicates the beta-blocker was not taken daily, e.g., the medication reconciliation form lists a beta-blocker as a home/current medication, but documentation in the nurses notes state "patient denies taking beta-blocker every day", select "No". • If there is documentation that the beta-blocker is on a schedule other than daily, select "No". • If there is documentation that the beta-blocker was given on a "prn" basis for cardiac or non-cardiac reasons, select "No".
Denominator Categories		Female, Male; 18 and older		Female, Male; Patients >/= 18 years of age
Denominator Details		Number of isolated CABG		Data Elements:

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
		procedures excluding cases for which preoperative beta blockers were contraindicated. Isolated CABG is determined as a procedure for which all of the following apply (note: full terms for STS field names are provided in brackets []): - OpCAB [Coronary Artery Bypass] is marked "Yes" - (VADProc [VAD Implanted or Removed] is marked "No" or "Missing") or (VADProc is marked "Yes, Implanted" and UnplVAD [Unplanned VAD Insertion] is marked "yes") - OCarASDTy [Atrial Septal Defect Repair] is marked "PFO" or "missing" - OCarAFibAProc [Atrial Fibrillation Ablation Procedure] is marked "primarily epicardial" or "missing" and - OpValve [Valve Surgery], VSAV [Aortic Valve Procedure], VSAVPr [Aortic Valve Procedure Performed], ResectSubA [Resection of sub-aortic stenosis], VSMV [Mitral Valve Procedure], VSMVPr [Mitral Valve Procedure Performed], OpTricus [Tricuspid Valve Procedure Performed], OpPulm [Pulmonic Valve Procedure Performed], OpONCard [Other Non-Cardiac Procedure], OCarLVA [Left Ventricular Aneurysm Repair], OCarVSD [Ventricular Septal Defect Repair],		Admission Date Anesthesia Start Date Beta-Blocker Current Medication Beta-Blocker During Pregnancy Birthdate Clinical Trial Discharge Date ICD-9-CM Principal Procedure Code Laparoscope Perioperative Death Reason for Not Administering Beta-Blocker-Perioperative Sex

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
		OCarSVR [Surgical Ventricular Restoration], OCarCong [Congenital Defect Repair], OCarTrma [surgical procedure for an injury due to Cardiac Trauma], OCarCrTx [Cardiac Transplant], OCAoProcType [Aortic Procedure Type], EndoProc [Endovascular Procedure (TEVAR)], OCTumor [resection of an intracardiac tumor], OCPulThromDis [Pulmonary Thromboembolectomy], OCarOthr [other cardiac procedure] are all marked "no" or "missing"		
Exclusions		Age qualification: For patients <20 years, the data are accepted into the database, but are not included in the national analysis and report.		Age qualification: Patients <18 years of age. • Patients less than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients who expired during the perioperative period • Pregnant patients taking a beta-blocker prior to arrival • Patients with a documented Reason for Not Administering Beta-Blocker-Perioperative • Patients with Ventricular Assist Devices or Heart Transplantation
Exclusion Details		Procedures with preoperative beta blockers [MedBeta (STS Adult Cardiac Surgery Database Version 2.73, Sequence number 1710)] marked as "Contraindicated"		Data Elements: Beta-Blocker During Pregnancy Clinical Trial Perioperative Death Reason for Not Administering

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
				Beta-Blocker-Perioperative
Risk Adjustment	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary
Stratification		N/A	N/A	N/A
Type Score		Rate/proportion	Rate/proportion	Rate/proportion
Algorithm		N/A		Variable Key: Patient Age, Surgery Days 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 Laparoscope. 4. Check Laparoscope a. If Laparoscope is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Laparoscope equals 1 or 3, the case will proceed to a Measure Category Assignment of B and

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
				will not be in the Measure Population. Stop processing. c. If Laparoscope equals 2, 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 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

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
				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 Beta-Blocker Current Medication. 10. Check Beta-Blocker Current Medication a. If the Beta-Blocker Current Medication is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If the Beta-Blocker Current Medication 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 the Beta-Blocker Current Medication equals Yes, continue

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
				processing and proceed to Sex. 11.Check Sex a. If Sex is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Sex equals Female, continue processing and check Beta-Blocker During Pregnancy. 1. If Beta-Blocker During Pregnancy is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. 2. If Beta-Blocker During Pregnancy equals 1 or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. 3. If Beta-Blocker During Pregnancy equals 2, continue processing and proceed to Beta-Blocker Preoperative. c. If Sex equals Male or Unknown, continue processing and proceed to Beta-Blocker Perioperative. 12. Check Beta-Blocker Perioperative a. If Beta-Blocker Perioperative is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Beta-Blocker Perioperative equals Yes, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.

	Endorsed Measure 0235: Pre-op beta blocker in patient with isolated CABG (1)	**Maintenance Measure 0127**: Pre-operative beta blockade	**Endorsed Measure 0236:** Pre-op beta-blocker in patient with isolated CABG (2)	**Maintenance Measure 0284:** Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
				c. If Beta-Blocker Perioperative equals No, continue processing and check Reason for Not Administering Beta-Blocker Perioperative. 13. Check Reason for Not Administering Beta-Blocker Perioperative a. If Reason for Not Administering Beta-Blocker Perioperative is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing. b. If Reason for Not Administering Beta-Blocker Perioperative 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 Reason for Not Administering Beta-Blocker Perioperative equals No, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
Data Source	Registry	Registry	Electronic administrative data/claims	Electronic administrative data/claims; Paper medical record/flow sheet
Level of Measurement /Analysis	Clinicians: Individual	Clinicians: Facility/agency	Clinicians: Individual	Facility/agency,
Care Settings	Hospital	Hospital	Hospital	Hospital

Cataracts

	New Candidate Measure 1536: Cataracts: Improvement in patient's visual function within 90 days following cataract surgery	**Endorsed Measure 0565**: Cataracts: 20/40 or better visual acuity within 90 days following cataract surgery
Status	Currently undergoing review	Endorsed 10/2009
Steward	American Academy of Ophthalmology and Hoskins Center for Quality Eye Care	American Medical Association-Physician Consortium for Performance Improvement
Description	Percentage of patients aged 18 years and older who had cataract surgery and had improvement in visual function achieved within 90 days following the cataract surgery.	Percentage of patients aged 18 years and older with a diagnosis of uncomplicated cataract who had cataract surgery and no significant ocular conditions impacting the visual outcome of surgery and had best-corrected visual acuity of 20/40 or better (distance or near) achieved within 90 days following the cataract surgery.
Type of Measure	Outcome	Outcome
Numerator	Patients 18 years and older in sample who had improvement in visual function achieved within 90 days following cataract surgery, based on pre-operative and post-operative visual function instrument.	Patients who had best-corrected visual acuity of 20/40 or better (distance or near) achieved within 90 days following cataract surgery.
Numerator Details	Reporting Numerator includes each of the following instances: A. Patients 18 years and older in sample who had an improvement in their visual function achieved within 90 days following cataract surgery B. Patients in sample who completed a pre-operative and post-operative visual function instrument, and with the CPT Procedure Coses (with or without modifiers): 66840, 66850, 66852, 66920, 66930, 66940, 66982, 66983, 66984	Patients who had best-corrected visual acuity of 20/40 or better (distance or near) achieved within 90 days following cataract surgery CPT Category II code: 4175F-Best-corrected visual acuity of 20/40 or better (distance or near) achieved within the 90 days following cataract surgery
Denominator	All patients aged 18 years and older in sample who had cataract surgery.	All patients aged 18 years and older who had cataract surgery and no significant pre-operative ocular conditions impacting the visual outcome of surgery.
Denominator Categories	Female, Male; 18 years and older	
Denominator Details	Denominator (Eligible Population): All patients aged 18 years and older in sample who had cataract surgery • CPT Procedure Codes (with or without modifiers): 66840, 66850, 66852, 66920, 66930, 66940, 66982, 66983, 66984	All patients aged 18 years and older who had cataract surgery and no significant pre-operative ocular conditions impacting visual outcomes of surgery. CPT Procedure Codes (with or without modifiers): 66840, 66850, 66852, 66920, 66930, 66940, 66982, 66983, 66984 AND Patients aged 18 years and older
Exclusions		Patients with comorbid conditions that impact the visual outcome of surgery (See Denominator Exclusions Spreadsheet).
Exclusion Details		Patients with any of the following comorbid conditions that impact the visual outcome of surgery (See Denominator Exclusions Spreadsheet)
Risk Adjustment	No risk adjustment necessary	No risk adjustment necessary
Stratification	This measure can be stratified into two major groups: those patients with ocular co-morbidities and those patients without ocular co-morbidities. An improvement in visual function after cataract surgery would be expected in both groups, however the magnitude of the difference would vary by group. The Cataract Patient Outcomes Research Team found that an important preoperative patient characteristic that	

	New Candidate Measure 1536: Cataracts: Improvement in patient's visual function within 90 days following cataract surgery	**Endorsed Measure 0565**: Cataracts: 20/40 or better visual acuity within 90 days following cataract surgery
	was independently associated with failure to improve on one of the outcomes measured (including the VF-14) was ocular comorbidity. The authors explained that this was expected, because it is reasonable to assume that other diseases that impair visual function would be correlated with a reduced improvement in functional status. The National Eye Care Outcomes Network also found that there were differences in the mean postoperative VF-14 scores across groups of patients with and without ocular co-morbidities, ... The study involving the Rasch-scaled short version of the VF-14 also found differences between the preoperative and postoperative visual function test scores and differences between preoperative and postoperative visual function tests...	
Type Score	Rate/proportion	
Algorithm	Calculation for Reporting: The calculation of the measure would be determination of the number of patients in the sample who demonstrated improvement in visual function based on the pre-operative and post-operative visual function instrument over the number of patients in the sample who had cataract surgery.	
Data Source	Patient Reported Data/Survey	Electronic administrative data/claims, electronic health/medical record, paper medical record/flow-sheet
Level of Measurement /Analysis	Clinicians: Physicians (MD/DO)	Clinicians: Individual, group
Care Settings	Ambulatory care: Ambulatory surgery center, clinic/urgent care, clinician office	Ambulatory care: Clinic

Failure to Rescue

The measures have similar measure focus and use administrative data. Level of analysis for Measures 0352 and 0351 is facility. At original endorsement, the CHOP measure included both in-hospital and 30 day mortality. It was viewed as most inclusive though less actionable due to "noise" that included complications present on admission. The AHRQ measure was viewed as more actionable with subset of conditions judged to more likely be hospital complication than pre-existing condition or co-morbidity though it leaves out as many as 50 percent of patients. Ultimately both were recommended for endorsement with the rationale that the CHOP measure might have greater value as an overall surgical mortality measure and the AHRQ measure focused on a set of deaths that were more likely preventable thus more actionable.

	Maintenance Measure 0351: Death among surgical inpatients with serious, treatable complications (PSI 4)	**Maintenance Measure 0352**: Failure to rescue in-hospital mortality (risk adjusted)	**Maintenance Measure 0353:** Failure to rescue 30-day mortality (risk adjusted)
Status	Currently undergoing maintenance review **Criteria met Y-18, N-1** **Question related to age range resolved as exclusion age 90 and older**	Currently undergoing maintenance review **Criteria met Y-18, N-3** **Questions related to age range, disparities and use in public reporting addressed**	Currently undergoing maintenance review **Criteria met Y-13, N-8** **Questions related to age range, disparities, public reporting, and 30 day data capture addressed.**
Steward	Agency for Healthcare Research and Quality	Children's Hospital of Philadelphia	Children's Hospital of Philadelphia
Description	Percentage of cases having developed specified complications of care with an in-hospital death.	Percentage of patients who died with a complications in the hospital.	Percentage of patients who died with a complication within 30 days from admission.
Type of Measure	Outcome	Outcome	Outcome
Numerator	All discharges with a disposition of "deceased" (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.	Patients who died with a complication plus patients who died without documented complications. Death is defined as death in the hospital. All patients in an FTR analysis have developed a complication (by definition). Complicated patient has at least one of the complications defined in Appendix B (see website http://www.research.chop.edu/programs/cor/outcomes.php). Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. Comorbidities are defined in Appendix C (see website http://www.research.chop.edu/programs/cor/outcomes.php) using secondary ICD9 diagnosis codes of the current admission and primary or secondary ICD9 diagnosis codes of previous admission within 90 days of the admission date of the current	Patients who died with a complication plus patients who died without documented complications. Death is defined as death within 30 days from admission. All patients in an FTR analysis have developed a complication (by definition). Complicated patient has at least one of the complications defined in Appendix B (see website http://www.research.chop.edu/programs/cor/outcomes.php). Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. Comorbidities are defined in Appendix C(see website http://www.research.chop.edu/programs/cor/outcomes.php) using secondary ICD9 diagnosis codes of the current admission and primary or secondary ICD9 diagnosis codes of previous admission within 90 days of the admission date of the current admission. *When physician

	Maintenance Measure 0351: Death among surgical inpatients with serious, treatable complications (PSI 4)	**Maintenance Measure 0352**: Failure to rescue in-hospital mortality (risk adjusted)	**Maintenance Measure 0353:** Failure to rescue 30-day mortality (risk adjusted)
		admission. *When physician part B is available, the definition of complications and comorbidities are augmented to include CPT codes.	part B is available, the definition of complications and comorbidities are augmented to include CPT codes.
Numerator Details	All discharges with a disposition of "deceased" (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.	Patients who died with complication and patients who died without documented complications. Death is defined as death in the hospital.	Patients who died with complication and patients who died without documented complications. Death is defined as death within 30 days from admission.
Denominator	All surgical discharges age 18 years and older or MDC 14 (pregnancy, childbirth, and puerperium) defined by specific DRGs or MS-DRGs and an ICD-9-CM code for an operating room procedure, principal procedure within 2 days of admission OR admission type of elective (ATYPE=3) with potential complications of care listed in Death among Surgical definition (e.g., pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer).	General Surgery, Orthopedic and Vascular patients in specific DRGs with complications plus patients who died in the hospital without complications. Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A http://www.research.chop.edu/programs/cor/outcomes.php)	General Surgery, Orthopedic and Vascular patients in specific DRGs with complications plus patients who died in the hospital without complications. Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A http://www.research.chop.edu/programs/cor/outcomes.php) Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A)
Denominator Categories	Female; 18 and older	Female, Male; 18-90	Female, Male; 18-90
Denominator Details	All surgical discharges age 18 years and older or MDC 14 (pregnancy, childbirth, and puerperium) defined by specific DRGs or MS-DRGs and an ICD-9-CM code for an operating room procedure, principal procedure within 2 days of admission OR admission type of elective (ATYPE=3) with potential complications of care listed in Death among Surgical definition (pneumonia, DVT/PE, sepsis,	Adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see Appendix A http://www.research.chop.edu/programs/cor/outcomes.php)who developed an in hospital complication and those who died without a complication.	Adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see Appendix A http://www.research.chop.edu/programs/cor/outcomes.php)who developed an in hospital complication and those who died without a complication.

	Maintenance Measure 0351: Death among surgical inpatients with serious, treatable complications (PSI 4)	**Maintenance Measure 0352**: Failure to rescue in-hospital mortality (risk adjusted)	**Maintenance Measure 0353:** Failure to rescue 30-day mortality (risk adjusted)
	shock/cardiac arrest, or GI hemorrhage/acute ulcer). See Patient Safety Indicators Appendices: • Appendix A – Operating Room Procedure Codes • Appendix D – Surgical Discharge DRGs • Appendix E – Surgical Discharge MS-DRGs PSI appendices at: http://www.qualityindicators.ahrq.gov/downloads/psi/TechSpecs42/PSI%20Appendices.pdf		
Exclusions	Exclude cases: • age 90 years and older • transferred to an acute care facility (DISP = 2) • missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) NOTE: Additional exclusion criteria is specific to each diagnosis (pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer).	Patients over age 90, under age 18.	Patients over age 90, under age 18.
Exclusion Details	Exclude cases: • age 90 years and older • transferred to an acute care facility (DISP = 2) • missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) NOTE: Additional exclusion criteria is specific to each diagnosis (pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer).		
Risk Adjustment	Risk adjustment method widely or commercially available. The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and	Risk Adjustment: Model was developed using logistic regression analysis. Associated data elements: age in years, sex, race, comorbidities, DRGs (combined with and without complications)	Risk Adjustment: Model was developed using logistic regression analysis. Associated data elements: age in years, sex, race, comorbidities, DRGs (combined with and without complications)

	Maintenance Measure 0351: Death among surgical inpatients with serious, treatable complications (PSI 4)	**Maintenance Measure 0352**: Failure to rescue in-hospital mortality (risk adjusted)	**Maintenance Measure 0353:** Failure to rescue 30-day mortality (risk adjusted)
	covariates for gender, age in years (in 5-year age groups), modified CMS DRG and AHRQ Comorbidities. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate.	and procedure codes within DRGs, transfer status. Failure to rescue is adjusted using a logistic regression model where y is a failure and the total N is composed of patients who develop a complication and patients who died without a complication. According to developer: The model adjustment variables can vary. We have found that FTR results are fairly stable, even with little adjustment, since all patients in an FTR analysis have developed a complication (by definition), they are a more homogeneous group of patients than the entire population. Hence severity adjustment plays somewhat less of a role than in other outcome measures.	and procedure codes within DRGs, transfer status. Failure to rescue is adjusted using a logistic regression model where y is a failure and the total N is composed of patients who develop a complication and patients who died without a complication. According to developer: The model adjustment variables can vary. We have found that FTR results are fairly stable, even with little adjustment, since all patients in an FTR analysis have developed a complication (by definition), they are a more homogeneous group of patients than the entire population. Hence severity adjustment plays somewhat less of a role than in other outcome measures.
Stratification	User has an option to stratify by Gender, age (5-year age groups), race / ethnicity, primary payer, and custom stratifiers.	Complicated patient has at least one of the complications defined in Appendix B (http://www.research.chop.edu/programs/cor/outcomes.php) Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. When Physician Part B file is available, the definition of complications and comorbidities are augmented to include CPT codes.	Complicated patient has at least one of the complications defined in Appendix B (http://www.research.chop.edu/programs/cor/outcomes.php) Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. When Physician Part B file is available, the definition of complications and comorbidities are augmented to include CPT codes.
Type Score	Rate/proportion	Rate/proportion	Rate/proportion
Algorithm	Each indicator is expressed as a rate, is defined as outcome of interest / population at risk or numerator / denominator. The AHRQ Quality Indicators (AHRQ QI) software performs five steps to produce the rates. 1) Discharge-level data is used to mark inpatient records containing the outcome of interest and 2) the population at risk. For provider indicators, the population at risk is also derived from hospital discharge records; for area indicators, the population at risk is derived from U.S. Census data. 3) Calculate observed rates. Using output from steps 1 and 2, rates are calculated for user-	Refer to website (http://www.research.chop.edu/programs/cor/outcomes.php)	Refer to website (http://www.research.chop.edu/programs/cor/outcomes.php)

	Maintenance Measure 0351: Death among surgical inpatients with serious, treatable complications (PSI 4)	**Maintenance Measure 0352**: Failure to rescue in-hospital mortality (risk adjusted)	**Maintenance Measure 0353:** Failure to rescue 30-day mortality (risk adjusted)
	specified combinations of stratifiers. 4) Calculate expected rates. Regression coefficients from a reference population database are applied to the discharge records and aggregated to the provider or area level. 5) Calculate risk-adjusted rate. Use the indirect standardization to account for case-mix. 6) Calculate smoothed rate. A Univariate shrinkage factor is applied to the risk-adjusted rates. The shrinkage estimate reflects a reliability adjustment unique to each indicator. Full information on calculation algorithms and specifications can be found at http://qualityindicators.ahrq.gov/PSI_download.htm		
Data Source	Electronic administrative data/claims	Electronic administrative data/claims	Electronic administrative data/claims
Level of Measurement /Analysis	Facility/agency	Facility/agency; Health plan; Integrate delivery system; Population: National, regional/network, states, counties or cities	Facility/agency; Health plan; Integrate delivery system; Population: National, regional/network, states, counties or cities
Care Settings	Hospital	Hospital	Hospital

Pancreatic Resection

Measures 0365 and 0366 are designated as paired measures and developer commits to harmonize measures to include benign disease in Measure 0365. The focus of these measures is similar to Measure 0738 which combines volume and mortality though view differently (i.e., mortality vs. survival prediction).

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
Status	Currently undergoing maintenance review **Criteria met – SC to vote on all criteria pending developer response to questions related to removing limitation to pancreatic cancer; addition of denominator exclusion for pancreatitis; removal of "transferring to another short-term hospital" from denominator exclusions. See changes below. Transfer change not made; rationale <1 percent and most for patient convenience.**	Currently undergoing maintenance review **Criteria met – SC to vote on all criteria pending developer response to questions related to removing limitation to pancreatic cancer; addition of denominator exclusion for pancreatitis. See changes below.**	Endorsed 9/2010
Steward	Agency for Healthcare Research and Quality	Agency for Healthcare Research and Quality	Leapfrog Group
Description	Percentage of discharges with procedure code of pancreatic resection with an in-hospital death.	Number of discharges with procedure for pancreatic resection.	A reliability adjusted measure of pancreatic resection surgical performance that optimally combines two important domains: Pancreatic resection hospital volume and pancreatic operative mortality, to provide predictions on hospital pancreatic survival rates in patients age 18 and over.
Type of Measure	Outcome	Structure	Outcome
Numerator	Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator. Time window: Time window can be determined by user, but is generally a calendar year.	Discharges, age 18 years and older, with ICD-9-CM codes for pancreatic resection procedure. Time window: Time window can be determined by user, but is generally a calendar year.	Survival of pancreatic cancer patients age 18 and over who undergo a pancreatic resection. Time window: During the hospital admission

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
Numerator Details	Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.	Discharges, age 18 years and older, with ICD-9-CM codes for pancreatic resection procedure. ICD-9-CM pancreatic resection procedure codes: 526 TOTAL PANCREATECTOMY 527 RAD PANCREATICODUODENECT52.5 Partial pancreatectomy 52.51 Proximal pancreatectomy 52.52 Distal pancreatectomy 52.53 Radical subtotal pancreatectomy 52.59 Other partial pancreatectomy Exclude cases: • MDC 14 (pregnancy, childbirth, and puerperium)	For the observed mortality, the hospital submits the observed deaths for pancreatic resection cases in patients with pancreatic cancer as identified using the population codes.
Denominator	Discharges, age 18 years and older, with ICD-9-CM pancreatic resection code procedure in any field. Time window: Time window can be determined by user, but is generally a calendar year.	N/A	All hospital patients age 18 and over with pancreatic cancer who had a pancreatic resection. Time Window : 12 months
Denominator Categories	Female, Male; 18 and older	Female, Male; 18 and older	
Denominator Details	Discharges, age 18 years and older, with ICD-9-CM pancreatic resection code procedure and a diagnosis code for pancreatic cancer in any field. ICD-9-CM pancreatic resection procedure codes: 526 TOTAL PANCREATECTOMY 527 RAD PANCREATICODUODENECT	N/A	For the volume predicted mortality, hospitals count the number of all pancreatic resection cases using the following codes. ICD-9-CM Procedure Codes for Pancreatectomy Any pancreaticoduodenectomy: 5251 Proximal Pancreatectomy 5253 Radical Subtot Pancreatectomy 526 Total Pancreatectomy 527 Radical Pancreatectomy For the observed mortality, the hospital counts the number of pancreatic resection cases that also have a pancreatic cancer diagnosis using the following codes

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
			ICD-9-CM Codes for pancreatic cancer 1521 MALIGNANT NEOPL JEJUNUM 1522 MALIGNANT NEOPLASM ILEUM 1523 MAL NEO MECKEL'S DIVERT 1528 MAL NEO SMALL BOWEL NEC 1529 MAL NEO SMALL BOWEL NOS 1560 MALIG NEO GALLBLADDER 1561 MAL NEO EXTRAHEPAT DUCTS 1562 MAL NEO AMPULLA OF VATER 1568 MALIG NEO BILIARY NEC 1569 MALIG NEO BILIARY NOS 1570 MAL NEO PANCREAS HEAD 1571 MAL NEO PANCREAS BODY 1572 MAL NEO PANCREAS TAIL 1573 MAL NEO PANCREATIC DUCT 1574 MAL NEO ISLET LANGERHANS 1578 MALIG NEO PANCREAS NEC 1579 MALIG NEO PANCREAS NOS
Exclusions	Exclude cases: • missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) • transferring to another short-term hospital (DISP=2) • MDC 14 (pregnancy, childbirth, and puerperium) ICD-9-CM codes: 577.0 Acute pancreatitis 577.1 Chronic pancreatitis	N/A	Patients who do not have a diagnosis of pancreatic cancer
Exclusion Details	Exclude cases: • missing discharge disposition (DISP=missing), gender (SEX=missing), age	N/A	Pancreatectomy cases without a pancreatic cancer diagnosis code.

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
	(AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) • transferring to another short-term hospital (DISP=2) • MDC 14 (pregnancy, childbirth, and puerperium) ICD-9-CM codes: 577.0 Acute pancreatitis 577.1 Chronic pancreatitis		
Risk Adjustment	Risk adjustment method widely or commercially available. The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, age in years (in 5-year age groups), All Patient Refined-Diagnosis Related Group (APR-DRG) and APR-DRG risk-of-mortality subclass. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate.	No risk adjustment necessary.	We used an empirical Bayes approach to combine mortality rates with information on hospital volume at each hospital. In traditional empirical Bayes methods, a point estimate (e.g., mortality rate observed at a hospital) is adjusted for reliability by shrinking it towards the overall mean (e.g., overall mortality rate in the population). We modified this traditional approach by shrinking the observed mortality rate back toward the mortality rate expected given the volume at that hospital—we refer to this as the "volume-predicted mortality". With this approach, the observed mortality rate is weighted according to how reliably it is estimated, with the remaining weight placed on the information regarding hospital volume [volume-predicted mortality]. Risk adjustment for patient characteristics is not used because in sensitivity analysis, composite measures based on an unadjusted mortality input and a risk-adjusted mortality input had a correlation of (.95) and thus were equally good at predicting future performance. The formula for calculating the survival predictor has two components, one is a volume predicted mortality rate, and the second is an observed mortality rate. The volume predicted mortality rate reflects the hospitals experience performing pancreatic resection

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
			surgeries (thus, it includes all pancreatic resection surgeries) and uses mortality for all hospitals at that specific volume to create the volume predicted mortality. The input data from the hospitals for this domain is a volume count of all pancreatic resections performed in the hospital. The second domain is the observed mortality, for this domain the population is narrowed to a homogenous group of pancreatic resections with a diagnosis of cancer, the data needed for this domain is the number of observed deaths occurring for pancreatic resection cases with cancer, within the inpatient setting. The general composite measure calculation is as follows: Predicted Survival = 1-Predicted Mortality Predicted Mortality = (weight)*(mortality) + (1-weight)*(volume predicted mortality) Volume predicted mortality* = intercept - coefficient*ln(caseload), where the intercepts and coefficients are derived from regression using the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure). *Any negative values are reset to "0" Weight = mortality signal/(mortality signal + [mortality sigma/caseload]), where mortality signal and sigma are derived from the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure). Method: We used an empirical Bayes approach to combine mortality rates with information on

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
			hospital volume at each hospital. In traditional empirical Bayes methods, a point estimate (e.g., mortality rate observed at a hospital) is adjusted for reliability by shrinking it towards the overall mean (e.g., overall mortality rate in the population). We modified this traditional approach by shrinking the observed mortality rate back toward the mortality rate expected given the volume at that hospital—we refer to this as the "volume-predicted mortality". With this approach, the observed mortality rate is weighted according to how reliably it is estimated, with the remaining weight placed on the information regarding hospital volume [volume-predicted mortality]. Risk adjustment for patient characteristics is not used because in sensitivity analysis, composite measures based on an unadjusted mortality input and a risk-adjusted mortality input had a correlation of (.95) and thus were equally good at predicting future performance. The formula for calculating the survival predictor has two components, one is a volume predicted mortality rate, and the second is an observed mortality rate. The volume predicted mortality rate reflects the hospitals experience performing pancreatic resection surgeries (thus, it includes all pancreatic resection surgeries) and uses mortality for all hospitals at that specific volume to create the volume predicted mortality. The input data from the hospitals for this domain is a volume count of all pancreatic resections performed in the hospital. The second domain is the observed mortality, for this domain the population is narrowed to a homogenous group of pancreatic

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
			resections with a diagnosis of cancer, the data needed for this domain is the number of observed deaths occurring for pancreatic resection cases with cancer, within the inpatient setting. The general composite measure calculation is as follows: Predicted Survival = 1-Predicted Mortality Predicted Mortality = (weight)*(mortality) + (1-weight)*(volume predicted mortality) Volume predicted mortality* = intercept - coefficient*ln(caseload), where the intercepts and coefficients are derived from regression using the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure). *Any negative values are reset to "0" Weight = mortality signal/(mortality signal + [mortality sigma/caseload]), where mortality signal and sigma are derived from the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure).
Stratification	User has the option to stratify by gender, age (5-year age groups), race / ethnicity, primary payer, and custom stratifiers.	N/A	
Type Score	Rate/proportion	Count	
Algorithm	Each indicator is expressed as a rate, is defined as outcome of interest / population at risk or numerator / denominator. The AHRQ Quality Indicators (AHRQ QI) software performs five steps to produce the rates. 1) Discharge-level data is used to mark inpatient records containing the outcome of interest and 2) the population at risk. For provider indicators, the population at risk is also derived from hospital	The volume is the number of discharges with a procedure for pancreatic resection.	

	Maintenance Measure 0365: Pancreatic resection mortality rate (IQI 9)	**Maintenance Measure 0366**: Pancreatic resection volume (IQI 2)	**Endorsed Measure 0738:** Survival predictor for pancreatic resection surgery
	discharge records; for area indicators, the population at risk is derived from U.S. Census data. 3) Calculate observed rates. Using output from steps 1 and 2, rates are calculated for user-specified combinations of stratifiers. 4) Calculate expected rates. Regression coefficients from a reference population database are applied to the discharge records and aggregated to the provider or area level. 5) Calculate risk-adjusted rate. Use the indirect standardization to account for case-mix. 6) Calculate smoothed rate. A Univariate shrinkage factor is applied to the risk-adjusted rates. The shrinkage estimate reflects a reliability adjustment unique to each indicator. Full information on calculation algorithms and specifications can be found at http://qualityindicators.ahrq.gov/IQI_download.htm		
Data Source	Administrative claims	Administrative claims	Electronic administrative data/claims
Level of Measurement /Analysis	Facility	Facility/agency	Facility/agency
Care Settings	Hospital/Acute Care Facility	Hospital/Acute Care Facility	Hospital
Clinical Services	Physicians (MD/DO)	Physicians (MD/DO)	

Prophylactic Antibiotics: Discontinued

All the measures have a similar measure focus in terms of discontinuation of antibiotics.
Measure 0637 is specific to cardiac procedures; uses health record data; level of analysis is clinician level in hospital or ambulatory care settings
Measure 0128 is specific to cardiac procedures; uses registry data; level of analysis is clinician group/facility in hospital
Measure 0529 includes cardiac and other procedures; uses administrative/claims data; level of analysis is hospital.
Measure 0271 excludes cardiac procedures; uses administrative/claims, lab, health record data; level of analysis is clinician – individual, group in hospital or ambulatory care settings.

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
Status	Endorsed 7/2008	Currently undergoing maintenance review **Criteria met Y-17, N-2**	Currently undergoing maintenance review **Criteria met Y-19, N-0**	Endorsed 7/2008
Steward	American Medical Association - Physician Consortium for Performance Improvement	Society of Thoracic Surgeons	Centers for Medicare & Medicaid Services	American Medical Association-Physician Consortium for Performance Improvement
Description	Percentage of cardiac surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic antibiotics AND who received a prophylactic antibiotic, who have an order for discontinuation of prophylactic antibiotics **within 48 hours** of surgical end time.	Percent of patients aged 18 years and older undergoing cardiac surgery whose prophylactic antibiotics were discontinued within 48 hours after surgery end time.	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.	Percentage of non-cardiac surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic antibiotics AND who received a prophylactic antibiotic, who have an order for discontinuation of prophylactic antibiotics within 24 hours of surgical end time.
Type of Measure	Process	Process	Process	Process
Numerator	Cardiac surgical patients who have an order for discontinuation of prophylactic antibiotics within 48 hours of surgical end time.	Number of cardiac surgery patients whose prophylactic antibiotics were discontinued within 48 hours after surgery end time.	Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time.	Non-cardiac surgical patients who have an order for discontinuation of prophylactic antibiotics within 24 hours of surgical end time. Numerator Instructions: There must be documentation of order (written order, verbal order, or standing order/protocol) specifying that prophylactic antibiotic is to be

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
		Time window: Within 48 hours after surgery end time.		discontinued within 24 hours of surgical end time OR specifying a course of antibiotic administration limited to that 24-hour period (e.g., "to be given every 8 hours for three doses") OR documentation that prophylactic antibiotic was discontinued within 24 hours of surgical end time.
Numerator Details	CPT II 4043F: Documentation that an order was given to discontinue prophylactic antibiotics within 48 hours of surgical end time, cardiac procedure. *Note: CPT Category II Code 4043F may be provided for documentation that antibiotic discontinuation was ordered OR that antibiotic discontinuation was accomplished. Report CPT Category II Code 4043F if antibiotics were discontinued within 48 hours.	Number of cardiac surgery procedures in which appropriate antibiotic discontinuation [AbxDisc (STS Adult Cardiac Surgery Database Version 2.73)] is marked "yes"	Data Elements: Anesthesia End Date Anesthesia End Time Antibiotic Administration Date Antibiotic Administration Time	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	All cardiac surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic antibiotics AND who received a prophylactic antibiotic.	Number of patients undergoing cardiac surgery.	Number of surgical patients with: CABG (ICD-9-CM procedure codes 36.10-36.14, 36.19, 36.15-36.17, 36.2), other cardiac surgery (35.0-35.95, 35.98, 35.99), colon surgery (45.00, 45.03, 45.41, 45.49, 45.50, 45.7-45.90, 45.92-45.95, 46.03, 46.04, 46.1-46.14, 46.52, 46.75, 45.76, 46.91, 46.92, 46.94, 48.5, 48.6-48.69), hip arthroplasty (81.51,	All non-cardiac surgical patients undergoing procedures with the indications for prophylactic antibiotics and who received a prophylactic antibiotic.

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			81.52), knee arthroplasty (81.54), abdominal hysterectomy (68.3, 68.4, 68.6), vaginal hysterectomy (68.5-68.59, 68.7), or vascular surgery (38.34, 38.36, 38.37, 38.44, 38.48, 38.49, 38.51, 38.52. 38.64, 38.14, 38.16, 38.18, 39.25, 39.26, 39.29).	
Denominator Categories		Female, Male; 18 yrs and older	Female, Male; Patients aged 18 and older	
Denominator Details	CPT II 4046F:Documentation that prophylactic antibiotics were given within 4 hours prior to surgical incision or given intraoperatively; CPT II 4042F:Documentation that prophylactic antibiotics were neither given within 4 hours prior to surgical incision nor given intraoperatively AND CPT Procedure Codes: Cardiothoracic Surgery: 33120, 33130, 33140, 33141, 33202, 33250, 33251, 33256, 33261, 33305, 33315, 33321, 33322, 33332, 33335, 33400, 33401, 33403-33406, 33410, 33411, 33413, 33416, 33422, 33425-33427, 33430, 33460, 33463-33465, 33475, 33496, 33510-33519, 33521-33523, 33530, 33533-33536, 33542, 33545, 33548, 33572, 35021, 35211, 35216, 35241, 35246, 35271, 35276,	Number of cardiac surgery procedures; A cardiac procedure is determined as a procedure for which at least one of the following is not marked “no” or “missing” (note: full terms for STS field names are provided in brackets []): OpCAB[Coronary Artery Bypass], OpValve[Valve Surgery], VADProc [VAD Implanted or Removed], VSAV [Aortic Valve Procedure], VSMV [Mitral Valve Procedure], OpTricus [Tricuspid Valve Procedure Performed], OpPulm[Pulmonic Valve Procedure Performed], OpOCard [Other Cardiac Procedure other than CABG or Valve], OCarLVA [Left Ventricular Aneurysm Repair], OCarVSD [Ventricular Septal Defect Repair], OCarSVR [Surgical Ventricular Restoration], OCarCong [Congenital Defect Repair], OCarTrma [surgical procedure for an injury due to Cardiac Trauma], OCarCrTx [Cardiac Transplant], OCarACD [Arrhythmia Correction Surgery], OCAoProcType[Aortic Procedure Type], EndoProc	Data Elements: Admission Date Anesthesia Start 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 Infection Prior to Anesthesia Laparoscope Oral Antibiotics Other Surgeries Perioperative Death Reasons to Extend Antibiotics Surgical Incision Date Surgical Incision Time	CPT II 4046F: Documentation that prophylactic antibiotics were given within 4 hours prior to surgical incision or given intraoperatively; CPT II 4042F: Documentation that prophylactic antibiotics were neither given within 4 hours prior to surgical incision nor given intraoperatively AND • CPT Procedure Codes: Integumentary: 15734, 15738, 19260, 19271, 19272, 19301-19307, 19361, 19364, 19366-19369 Spine: 22325, 22612, 22630, 22800, 22802, 22804, 63030, 63042 Hip Reconstruction: 27125, 27130, 27132, 27134, 27137, 27138 Trauma (Fractures): 27235, 27236, 27244, 27245, 27758, 27759, 27766, 27792, 27814 Knee Reconstruction: 27440-27443, 27445-27447 Vascular: 33877, 33880, 33881, 33883, 33886, 33891, 34800, 34802-34805, 34825, 34830-34832, 34900, 35081, 35091, 35102, 35131, 35141, 35151, 35601, 35606, 35612, 35616, 35621, 35623, 35626, 35631, 35636-35638, 35642, 35645-35647, 35650, 35651, 35654, 35656, 35661, 35663,

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
	35311.	[Endovascular Procedure (TEVAR)], OCTumor [resection of an intracardiac tumor], OCPulThromDis [Pulmonary Thromboembolectomy,, OCarOthr [Other Cardiac Procedure other than those listed previously], ECMO [Extracorporeal Membrane Oxygenation], OCarLasr [-Transmyocardial Laser Revascularization], OCarASD [Atrial Septal Defect Repair], OCarAFibSur [Atrial Fibrillation Surgical Procedure]		35665, 35666, 35671, 36830 Spleen and Lymph Nodes: 38115 Esophagus: 43045, 43100, 43101, 43107, 43108, 43112, 43113, 43116-43118, 43121-43124, 43130, 43135, 43300, 43305, 43310, 43312, 43313, 43320, 43324-43326, 43330, 43331, 43340, 43341, 43350, 43351, 43352, 43360, 43361, 43400, 43401, 43405, 43410, 43415, 43420, 43425, 43496 Stomach: 43500-43502, 43510, 43520, 43600, 43605, 43610, 43611, 43620-43622, 43631-43634, 43640, 43641, 43653, 43800, 43810, 43820, 43825, 43830-43832, 43840, 43842, 43843, 43845-43848, 43850, 43855, 43860, 43865, 43870 Small Intestine: 44005, 44010, 44020, 44021, 44050, 44055, 44100, 44120, 44125-44127, 44130, 44132, 44133, 44135, 44136 Biliary Surgery: 47420, 47425, 47460, 47480, 47560, 47561, 47570, 47600, 47605, 47610, 47612, 47620, 47700, 47701, 47711, 47712, 47715, 47719-47721, 47740, 47741, 47760, 47765, 47780, 47785, 47800, 47802, 47900 Pancreas: 48020, 48100, 48120, 48140, 48145, 48146, 48148, 48150, 48152-48155, 48160, 48500, 48510, 48511, 48520, 48540, 48545, 48547, 48548, 48550, 48554, 48556 Abdomen, Peritoneum, and Omentum: 49215, 49568 Renal Transplant: 50300, 50320, 50340, 50360, 50365, 50370, 50380 Neurological Surgery: 22524, 22554, 22558, 22600, 22612, 22630, 35301, 61154, 61312, 61313, 61315, 61510,

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
				61512, 61518, 61548, 61697, 61700, 61750, 61751, 61867, 62223, 62230, 63015, 63020, 63030, 63042, 63045, 63047, 63056, 63075, 63081, 63267, 63276 Cardiothoracic Surgery: 33120, 33130, 33140, 33141, 33202, 33250, 33251, 33256, 33261, 33305, 33315, 33321, 33322, 33332, 33335, 33400, 33401, 33403-33406, 33410, 33411, 33413, 33416, 33422, 33425-33427, 33430, 33460, 33463-33465, 33475, 33496, 33510-33519, 33521-33523, 33530, 33533-33536, 33542, 33545, 33548, 33572, 35211, 35241, 35271 General Thoracic Surgery: 19272, 21627, 21632, 21740, 21750, 21805, 21825, 31760, 31766, 31770, 31775, 31786, 31805, 32095, 32100, 32110, 32120, 32124, 32140, 32141, 32150, 32215, 32220, 32225, 32310, 32320, 32402, 32440, 32442, 32445, 32480, 32482, 32484, 32486, 32488, 32491, 32500, 32501, 32800, 32810, 32815, 32900, 32905, 32906, 32940, 33020, 33025, 33030, 33031, 33050, 33300, 33310, 33320, 34051, 35021, 35216, 35246, 35276, 35311, 35481, 35526, 37616, 38381, 38746, 38747, 39000, 39010, 39200, 39220, 39545, 39561, 60521, 60522, 64746 Foot & Ankle: 27702, 27703, 27704, 27870, 28192, 28193, 28293, 28296, 28299, 28300, 28306, 28307, 28308, 28309, 28310, 28320, 28322, 28415, 28420, 28445, 28465, 28485, 28505, 28525, 28531, 28555, 28585, 28615, 28645, 28675, 28705, 28715, 28725, 28730, 28735, 28737, 28740, 28750, 28755, 28760

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
Exclusions	Exclude patients for whom prophylactic antibiotics was not ordered by reason of appropriate denominator exclusion. If using electronic data, exclude patients using the following code: If using the medical record or hybrid methodologies, exclude patients who have documentation in the medical record of: medical reason(s) for not discontinuing prophylactic antibiotics within 48 hours of surgical end time, cardiac procedure. If using the EHR methodology, exclude patients using the codes listed in the electronic data collection methodology or who have documentation in the medical record of the appropriate denominator exclusion.	Exclusions: - Patients who had a principal diagnosis suggestive of preoperative infectious diseases - Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope - Patients enrolled in clinical trials - Patients with documented infection prior to surgical procedure of interest - Patients who expired perioperatively - Patients who were receiving antibiotics more than 24 hours prior to surgery - Patients who were receiving antibiotics within 24 hours prior to arrival - Patients who did not receive any antibiotics during this hospitalization - Patients with reasons to extend antibiotics This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions.	•Principal or admission diagnosis suggestive of pre-operative infectious disease •Infectious diseases (001.0-139.8) •Meningitis (320.0-326) •Ear infection (380.0-380.23; 382.0-382.20) •Endocarditis (421.0-422.99) •Respiratory (460-466.19; 472-476.1; 480-487.1; 490-491.9; 510-511.9; 513-513.1) •Digestive (540-542; 575.0) •Renal (590-590.9; 595.0) •Prostate (601.0-601.9) •Gynecologic (614-614.9; 616-616.4) •Skin (680-686.9) •Musculo-skeletal (711.9; 711.99; 730.0-730.99) •Fever of unknown origin (780.6) •Septic shock (785.59) •Bacteremia (790.7) •Viremia (790.8) •Receiving antibiotics at the time of admission (except colon surgery patients taking oral prophylactic antibiotics); •Medical records do not include antibiotic start date/time, incision date/time, antibiotic end date/time, surgery end date/time; •Receiving antibiotics > 24 hours prior to surgery (except colon surgery patients taking oral prophylactic antibiotics); •No antibiotics received before or during surgery, or within 24 hours after surgery end time (i.e., patient did not receive any prophylactic antibiotics); •Diagnosed with and treated for	Documentation of medical reason(s) for not discontinuing prophylactic antibiotics within 24 hours of surgical end time.

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			infections within two days after surgery date •No antibiotics received during hospitalization	
Exclusion Details	Append a modifier (1P) to the CPT Category II Code to report patients with documented circumstances that meet the denominator exclusion criteria 1P:Documentation of medical reason(s) for not discontinuing prophylactic antibiotics within 48 hours of surgical end time, cardiac procedure.	AbxDisc is marked "Exclusion"	Clinical Trial Infection Prior to Anesthesia Laparoscope Other Surgeries Perioperative Death Reasons to Extend Antibiotics	Append modifier to CPT Category II code: 4046F-1P
Risk Adjustment	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary
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 be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-3 are 5.01 to 5.08.	
Type Score		Rate/proportion	Rate/proportion	
Algorithm			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	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			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 for Centers for Medicare and Medicaid Services (CMS). Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 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 Procedure Code a. If the ICD-9-CM Principal Procedure Code is not on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and proceed to recheck ICD-9-CM Principal Diagnosis Code. 5. Check ICD-9-CM Principal Diagnosis Code	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			a. If the ICD-9-CM Principal Diagnosis Code is on Table 5.09, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the ICD-9-CM Principal Diagnosis Code is not on Table 5.09, continue processing and proceed to Laparoscope. 6. Check Laparoscope a. If Laparoscope is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If Laparoscope equals 1 or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Laparoscope equals 2, continue processing and proceed to Clinical Trial. 7. 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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			Rate (SCIP-Inf-3a) for The Joint Commission. 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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Clinical Trial equals No, continue processing and proceed to Anesthesia Start Date. 8. 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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Anesthesia Start Date equals a Non Unable To Determine Value, continue processing and proceed to the Surgery Days calculation. 9. Calculate Surgery Days. Surgery Days, in days, is equal to the Anesthesia Start Date minus the Admission Date. 10. Check Surgery Days	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Surgery Days is greater than or equal to zero, continue processing and proceed to Infection Prior to Anesthesia. 11. Check Infection Prior to Anesthesia a. If Infection Prior to Anesthesia is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If Infection Prior to Anesthesia equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Infection Prior to Anesthesia equals No, continue processing and proceed to Perioperative Death. 12. 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 for	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. coif Perioperative Death equals No, continue processing and proceed to Surgical Incision Date. 13. Check Surgical Incision Date a. If the Surgical Incision Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP- Inf-3a) for The Joint Commission. b. If the Surgical Incision 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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Surgical Incision Date equals a Non Unable To Determine Value, continue processing and proceed to Other Surgeries. 14. Check Other Surgeries a. If Other Surgeries is missing, the case will proceed to a Measure	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If Other Surgeries equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c . If Other Surgeries equals No, continue processing and proceed to Antibiotic Received. 15. Check Antibiotic Received a. If Antibiotic Received equals 1 or 2, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code b. If Antibiotic Received equals 4, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Antibiotic Received equals 3, continue processing and proceed to step 19 and check Antibiotic Name. Do not check step 16 ICD-9-CM Principal Procedure Code, step 17 Oral Antibiotics or step 18 Antibiotic Received. 16. Recheck ICD-9-CM Principal Procedure Code only if Antibiotic	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			Received equals 1 or 2 a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and proceed to check Oral Antibiotics. 17. Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to recheck Antibiotic Received. 18.Recheck Antibiotic Received a. If Antibiotic Received equals 1, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If Antibiotic Received equals 2, continue processing and proceed to Antibiotic Name. 19. Check Antibiotic Name a. If the Antibiotic Grid is not populated, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. Note: The front-end edits reject cases containing invalid data and/or an incomplete Antibiotic Grid. A complete Antibiotic Grid requires all data elements in the row to contain either a valid value and/or Unable to Determine. b. If the Antibiotic Name is on Table 2.1, continue processing and recheck Antibiotic Name. 20. Recheck Antibiotic Name a. If all of the Antibiotic Names are on Table 3.11, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If at least one of the Antibiotic Names is NOT on Table 3.11, continue processing and proceed to Antibiotic Administration Route. Exclude antibiotic doses on Table	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			3.11 from further processing. 21. Check Antibiotic Administration Route a. If the Antibiotic Administration Route is equal to 3 or 10 for all antibiotic doses, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Antibiotic Administration Route is equal to 1 or 2 for any antibiotic dose, continue processing and proceed to Antibiotic Administration Date. Proceed only with antibiotic doses on Table 2.1 that are administered via routes 1 or 2. 22. Check Antibiotic Administration Date a. If the Antibiotic Administration Date is equal to Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Antibiotic Administration Date is equal to a Non Unable to Determine date for at least one antibiotic dose, continue processing and proceed to the Antibiotic Days I calculation. Note: Proceed only with antibiotic doses that have an	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			associated Non Unable to Determine date. 23.Calculate Antibiotic Days I. Antibiotic Days I, in days, is equal to the Surgical Incision Date minus the Antibiotic Administration Date. 24.Check Antibiotic Days I a. If the Antibiotic Days I is greater than 1 for at least one antibiotic dose, continue processing and recheck the ICD-9-CM Principal Procedure Code. Do not recheck step 27 Antibiotic Days I, step 28 Surgical Incision Time, steps 29 and 30 Antibiotic Administration Time, or step 31 Antibiotic Timing I. b. If the Antibiotic Days I is less than or equal to 1 for all antibiotic doses, continue processing. Proceed to step 27 and recheck Antibiotics Days I. Do not recheck ICD-9-CM Principal Procedure Code or Oral Antibiotics. 25.Recheck ICD-9-CM Principal Procedure Code only if Antibiotic Days I is greater than 1 for at least one antibiotic dose a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and check Oral Antibiotics. 26.Check Oral Antibiotics	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to step 35 and check Anesthesia End Date. Do not recheck step 27 Antibiotic Days I, step 28 Surgical Incision Time, steps 29 and 30 Antibiotic Administration Time, or 31 Antibiotic Timing I. 27.Recheck Antibiotic Days I only if Antibiotic Days I was less than or equal to 1 for all antibiotic doses a. If the Antibiotic Days I is less than or equal to zero for ALL antibiotic doses, continue processing. Proceed to step 35 and check Anesthesia End Date. Do not check step 28 Surgical Incision Time, step 29 and 30 Antibiotic Administration Time, or step 31 Antibiotic Timing I. b. If the Antibiotic Days I is equal to 1 for ANY antibiotic dose, continue processing and proceed to Surgical Incision Time. 28.Check Surgical Incision Time	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			a. If the Surgical Incision Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Surgical Incision Time is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If the Surgical Incision Time is equal to a Non Unable to Determine Value, continue processing and check Antibiotic Administration Time. 29.Check Antibiotic Administration Time a. If the Antibiotic Administration Time equals Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Antibiotic Administration Time equals a Non Unable to Determine time for at least one antibiotic dose, continue processing and recheck Antibiotic	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			Administration Time. 30.Recheck Antibiotic Administration Time a. If the Antibiotic Administration Time equals Unable to Determine for ANY antibiotic dose with Antibiotic Days I equal to 1, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Antibiotic Administration Time equals a Non Unable to Determine time for ALL antibiotic doses with Antibiotic Days I equal to 1, continue processing and proceed to the Antibiotic Timing I calculation. 31.Calculate Antibiotic Timing I. Antibiotic Timing I, in minutes, is equal to the Surgical Incision Date and Surgical Incision Time minus the Antibiotic Administration Date and Antibiotic Administration Time. Calculate Antibiotic Timing I for all antibiotic doses with non Unable to Determine date and time. Proceed with antibiotic doses that have Antibiotic Timing I calculated, or Antibiotic Days I less than or equal to zero. 32.Check Antibiotic Timing I a. If the Antibiotic Timing I is greater than 1440 minutes for any antibiotic dose, continue processing and recheck the ICD-9-CM Principal Procedure Code. Proceed with antibiotic does that have Antibiotic	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			Timing I calculated, or Antibiotic Days I less than or equal to zero. b. If the Antibiotic Timing I is less than or equal to 1440 minutes for all antibiotic doses with non Unable to Determine date and time, continue processing. Proceed to step 35 and check Anesthesia End Date. Do not recheck ICD-9-CM Principal Procedure Code or Oral Antibiotics. 33.Recheck ICD-9-CM Principal Procedure Code only if the Antibiotic Timing I is greater than 1440 minutes for any antibiotic dose a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and check Oral Antibiotics. 34.Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population.	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to Anesthesia End Date. 35.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 for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Anesthesia End Date is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If the Anesthesia End Date is equal to a Non Unable to Determine value, continue processing and proceed to the Antibiotic Days II calculation. 36.Calculate Antibiotic Days II. Antibiotic Days II, in days, is equal to the Antibiotic Administration Date minus the Anesthesia End Date. 37.Set Exclusion Flag, for all cases, to equal No. If all of the antibiotic doses of a case satisfy one of the two following conditions, set Exclusion Flag (for this case) to equal ?Yes'. These conditions are: a. Antibiotic Days II is greater than 3	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			days regardless of table on which procedure code is on; OR b. Antibiotic Days II is greater than 2 days AND ICD-9-CM Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07, or 5.08. 38.Check Exclusion Flag a. If the Exclusion Flag is equal to Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Exclusion Flag is equal to No, continue processing and proceed to check Antibiotic Days II. Remove any dose that satisfies one of the two following conditions. These conditions are: 1.Antibiotic Days II is greater than 3 days regardless of procedure on which procedure code is on; OR 2.Antibiotic Days II is greater than 2 days AND ICD-9-CM Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07 or 5.08. 39.Check Antibiotic Days II a. If the Antibiotic Days II is less than or equal to zero for all antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			b. If the Antibiotic Days II is greater than zero for at least one antibiotic dose, continue processing and recheck ICD-9-CM Principal Procedure Code. 40.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02, continue processing and recheck Antibiotic Days II. 1.If the Antibiotic Days II is less than 2 days for antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 2.If the Antibiotic Days II is greater than or equal to 2 days for at least one antibiotic dose, continue processing and proceed to Anesthesia End Time. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and proceed to Anesthesia End Time. 41.Check Anesthesia End Time a. If the Anesthesia End Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			b. If the Anesthesia End Time is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. c. If the Anesthesia End Time is equal to a Non Unable to Determine Value, continue processing and recheck Antibiotic Administration Time. 42.Recheck Antibiotic Administration Time a. If the Antibiotic Administration Time equals Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Antibiotic Administration Time equals a Non Unable to Determine time for at least one antibiotic dose, continue processing and proceed to the Antibiotic Timing II calculation. Remove from consideration any antibiotic doses for which Antibiotic Administration Time equals Unable to Determine. 43.Calculate Antibiotic Timing II. Antibiotic Timing II, in minutes, is equal to the Antibiotic Administration Date and Antibiotic Administration Time minus	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			Anesthesia End Date and Anesthesia End Time. 44.Set Exclusion Flag. Set Exclusion Flag, for all cases, to equal ?No'. If all of the antibiotic doses of a case satisfy one of the two following conditions, set Exclusion Flag (for this case) to equal ?Yes'. These conditions are: a. Antibiotic Timing is greater than 4320 minutes; OR b. Antibiotic Timing II is greater than 2880 minutes AND ICD-9-CM Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07, or 5.08. 45.Check Exclusion Flag a. If the Exclusion Flag equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 47 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the Exclusion Flag equals No, continue processing and recheck ICD-9-CM Principal Procedure Code and Antibiotic Timing II. Remove any dose that satisfies one of the two following conditions. These conditions are: 1.Antibiotic Timing II is greater than 4320 minutes; OR Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07, or 5.08. 46.Recheck ICD-9-CM Principal Procedure Code and Antibiotic Timing II a. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			5.02 and Antibiotic Timing II is less than or equal to 2880 minutes for all antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02 and Antibiotic Timing II is greater than 2880 minutes for at least one antibiotic dose, continue processing and proceed to check Reasons To Extend Antibiotics. 1.If Reasons To Extend Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 2.If Reasons To Extend Antibiotics equals 7, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 3.If Any Reasons To Extend Antibiotics equals 1, 2, 3, 4, 5, 6 and None equals 7, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			The Joint Commission. c. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08 and Antibiotic Timing II is less than or equal to 1440 minutes for all antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. d. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08 and Antibiotic Timing II is greater than 1440 minutes for at least one antibiotic dose, continue processing and proceed to check Reasons To Extend Antibiotics. 1. If Reasons To Extend Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 2. If Reasons To Extend Antibiotics equals 7, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 3. If Any Reasons To Extend Antibiotics equals 1, 2, 3, 4, 5, 6 and None equals 7, the case will proceed	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. 47. For The Joint Commission Only, continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for each strata measure (b-g) to equal B, not in the Measure Population. Do not change the Measure Category Assignment that was already calculated for the overall rate (SCIP-Inf-3a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate´s (SCIP-Inf-3a) Measure Category Assignment. 48. Check Overall Rate Category Assignment a. If the Overall Rate Category Assignment is equal to B or X, set the Measure Category Assignment for the strata measures (SCIP-Inf-3b through SCIP-Inf-3h) to equal B, not in the Measure Population. Stop processing. b. If the Overall Rate Category Assignment is equal to D or E, continue processing and check the ICD-9-CM Principal Procedure Code. 49. Check ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.01, for Stratified Measure SCIP-Inf-3b, set the Measure Category Assignment	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			for measure SCIP-Inf-3b to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 50. Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.02, for Stratified Measure SCIP-Inf-3c, set the Measure Category Assignment for measure SCIP-Inf-3c to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 51. Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.04, for Stratified Measure SCIP-Inf-3d, set the Measure Category Assignment for measure SCIP-Inf-3d to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			CM Principal Procedure Code. 52. Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.05, for Stratified Measure SCIP-Inf-3e, set the Measure Category Assignment for measure SCIP-Inf-3e to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 53. Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.03, for Stratified Measure SCIP-Inf-3f, set the Measure Category Assignment for measure SCIP-Inf-3f to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 54. Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07, for Stratified Measure SCIP-Inf-3g, set the Measure Category Assignment for measure SCIP-Inf-3g to equal the Measure Category Assignment for measure SCIP-Inf-	

	Endorsed Measure 0637: Discontinuation of prophylactic antibiotics (cardiac procedures)	**Maintenance Measure 0128**: Duration of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0529**: Prophylactic antibiotics discontinued within 24 hours after surgery end time	**Endorsed Measure 0271**: Discontinuation of prophylactic antibiotics (non-cardiac procedures)
			3a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.08, for Stratified Measure SCIP-Inf-3h, set the Measure Category Assignment for measure SCIP-Inf-3h to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.	
Data Source	Electronic health/medical record, paper medical record/flow-sheet	Registry data	Electronic administrative data/claims, paper medical record/flow-sheet	Electronic administrative data/claims, lab data, paper medical record/flow-sheet
Level of Measurement /Analysis	Clinicians: Individual, group	Clinicians: Group; Facility/agency; Population: National, regional/network, states, counties or cities	Facility/agency	Clinicians: Individual, group
Care Settings	Hospital, Ambulatory care: Ambulatory surgery center	Hospital	Hospital	Hospital, Ambulatory care: Ambulatory surgery center

Prophylactic Antibiotics: Selection

The measure focus is similar in terms of antibiotic selection though different in terms of indication and/or population to which they apply.
Measure 0126 uses registry data and a level of measurement at the clinician and facility level in hospitals
Measure 0268 uses administrative/claims, lab, medical record data; level of measurement is clinician in hospitals
Measure 0528 uses administrative/claims, lab, medical record data; level of measurement is hospitals

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
Status	Currently undergoing maintenance review **Criteria met Y-19, N-0**	Endorsed 7/2008	Currently undergoing maintenance review **Criteria met Y-18, N-0**
Steward	Society of Thoracic Surgeons	American Medical Association-Physician Consortium for Performance Improvement	Centers for Medicare & Medicaid Services
Description	Percent of patients aged 18 years and older undergoing cardiac surgery who received preoperative prophylactic antibiotics recommended for the operation.	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 cefazolin OR cefuroxime for antimicrobial prophylaxis.	Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure).
Type of Measure	Process	Process	Process
Numerator	Cardiac surgery patients who received a first generation or second generation cephalosporin prophylactic antibiotic (e.g., cefazolin, cefuroxime, cefamandole) preoperatively or in the event of a documented allergy, an alternate antibiotic choice (e.g., vancomycin, clindamycin) was ordered and administered preoperatively.	Surgical patients who had an order for cefazolin OR cefuroxime for antimicrobial prophylaxis. Numerator Instructions: There must be documentation of order (written order, verbal order, or standing order/protocol) for cefazolin or cefuroxime for antimicrobial prophylaxis OR documentation that cefazolin or cefuroxime was given. Report one of the following CPT Category II codes: •CPT II 4041F: Documentation of order for cefazolin OR cefuroxime for antimicrobial prophylaxis. Note: CPT Category II Code 4041F is provided for antibiotic ordered or antibiotic given. Report CPT Category II Code 4041F if cefazolin OR cefuroxime was given for antimicrobial prophylaxis.	Surgical patients who received recommended prophylactic antibiotics for specific surgical procedures.
Numerator Details	Number of cardiac surgery procedures in which appropriate antibiotic selection [AbxSelect (STS Adult Cardiac Surgery Database Version 2.73)] is marked "yes"		Data Elements: Antibiotic Administration Route Antibiotic Allergy Antibiotic Name Oral Antibiotics Vancomycin

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
Denominator	Number of patients undergoing cardiac surgery. Time window: 12 months	All surgical patients aged 18 years and older undergoing procedures with the indications for a first or second generation cephalosporin prophylactic antibiotic.	Number of surgical patients with: CABG (ICD-9-CM procedure codes 36.10-36.14, 36.19, 36.15-36.17, 36.2), other cardiac surgery (35.0-35.95, 35.98, 35.99), colon surgery (45.00, 45.03, 45.41, 45.49, 45.50, 45.7-45.90, 45.92-45.95, 46.03, 46.04, 46.1-46.14, 46.52, 46.75, 45.76, 46.91, 46.92, 46.94, 48.5, 48.6-48.69), hip arthroplasty (81.51, 81.52), knee arthroplasty (81.54), abdominal hysterectomy (68.3, 68.4, 68.6), vaginal hysterectomy (68.5-68.59, 68.7), or vascular surgery (38.34 38.36, 38.37, 38.44, 38.48, 38.49, 38.51, 38.52. 38.64, 38.14, 38.16, 38.18, 39.25, 39.26, 39.29).
Denominator Categories	Female, Male; 18 and older		Female, Male; Patients aged 18 or older
Denominator Details	Number of cardiac surgery procedures; A cardiac procedure is determined as a procedure for which at least one of the following is not marked "no" or "missing" (note: full terms for STS field names are provided in brackets []): OpCAB[Coronary Artery Bypass], OpValve[Valve Surgery], VADProc [VAD Implanted or Removed], VSAV [Aortic Valve Procedure], VSMV [Mitral Valve Procedure], OpTricus [Tricuspid Valve Procedure Performed], OpPulm[Pulmonic Valve Procedure Performed], OpOCard [Other Cardiac Procedure other than CABG or Valve], OCarLVA [Left Ventricular Aneurysm Repair], OCarVSD [Ventricular Septal Defect Repair], OCarSVR [Surgical Ventricular Restoration], OCarCong [Congenital Defect Repair], OCarTrma [surgical procedure for an injury due to Cardiac Trauma], OCarCrTx [Cardiac Transplant], OCarACD [Arrhythmia Correction Surgery], OCAoProcType[Aortic Procedure Type], EndoProc [Endovascular Procedure (TEVAR)], OCTumor [resection of an intracardiac tumor], OCPulThromDis [Pulmonary Thromboembolectomy,, OCarOthr	Report one of the following CPT Category II codes: • CPT II 4041F: Documentation of order for cefazolin OR cefuroxime for antimicrobial prophylaxis. Note: CPT Category II Code 4041F is provided for antibiotic ordered or antibiotic given. Report CPT Category II Code 4041F if cefazolin OR cefuroxime was given for antimicrobial prophylaxis. Denominator (Eligible Population): All surgical patients aged 18 years and older undergoing procedures with the indications for a first or second generation cephalosporin prophylactic antibiotic • CPT Procedure Codes: Integumentary: 15734, 15738, 19260, 19271, 19272, 19301-19307, 19361, 19364, 19366-19369 Spine: 22325, 22612, 22630, 22800, 22802, 22804, 63030, 63042 Hip Reconstruction: 27125, 27130, 27132, 27134, 27137, 27138 Trauma (Fractures): 27235, 27236, 27244, 27245, 27758, 27759, 27766, 27792, 27814 Knee Reconstruction: 27440-27443, 27445-27447 Vascular: 33877, 33880, 33881, 33883, 33886, 33891, 34800, 34802-34805, 34825, 34830-34832, 34900, 35081, 35091, 35102, 35131, 35141,	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 Laparoscope Perioperative Death Surgical Incision Date Surgical Incision Time

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
	[Other Cardiac Procedure other than those listed previously], ECMO [Extracorporeal Membrane Oxygenation], OCarLasr [-Transmyocardial Laser Revascularization], OCarASD [Atrial Septal Defect Repair], OCarAFibSur [Atrial Fibrillation Surgical Procedure]	35151, 35601, 35606, 35612, 35616, 35621, 35623, 35626, 35631, 35636-35638, 35642, 35645-35647, 35650, 35651, 35654, 35656, 35661, 35663, 35665, 35666, 35671, 36830 Spleen and Lymph Nodes: 38115 Esophagus: 43045, 43100, 43101, 43107, 43108, 43112, 43113, 43116-43118, 43121-43124, 43130, 43135, 43300, 43305, 43310, 43312, 43313, 43320, 43324-43326, 43330, 43331, 43340, 43341, 43350, 43351, 43352, 43360, 43361, 43400, 43401, 43405, 43410, 43415, 43420, 43425, 43496 Stomach: 43500-43502, 43510, 43520, 43600, 43605, 43610, 43611, 43620-43622, 43631-43634, 43640, 43641, 43653, 43800, 43810, 43820, 43825, 43830-43832, 43840, 43842, 43843, 43845-43848, 43850, 43855, 43860, 43865, 43870 Small Intestine: 44005, 44010, 44020, 44021, 44050, 44055, 44100, 44120, 44125-44127, 44130, 44132, 44133, 44135, 44136 Biliary Surgery: 47420, 47425, 47460, 47480, 47560, 47561, 47570, 47600, 47605, 47610, 47612, 47620, 47700, 47701, 47711, 47712, 47715, 47719-47721, 47740, 47741, 47760, 47765, 47780, 47785, 47800, 47802, 47900 Pancreas: 48020, 48100, 48120, 48140, 48145, 48146, 48148, 48150, 48152-48155, 48160, 48500, 48510, 48511, 48520, 48540, 48545, 48547, 48548, 48550, 48554, 48556 Abdomen, Peritoneum, and Omentum: 49215, 49568 Renal Transplant: 50300, 50320, 50340, 50360, 50365, 50370, 50380 Neurological Surgery: 22524, 22554, 22558, 22600, 22612, 22630, 35301, 61154, 61312, 61313, 61315, 61510, 61512, 61518, 61548, 61697, 61700, 61750, 61751, 61867, 62223, 62230, 63015, 63020, 63030, 63042, 63045, 63047, 63056, 63075, 63081, 63267, 63276 Cardiothoracic Surgery: 33120, 33130, 33140, 33141, 33202, 33250, 33251, 33256, 33261, 33305, 33315, 33321, 33322, 33332, 33335, 33400, 33401, 33403-33406, 33410, 33411, 33413, 33416, 33422, 33425-33427, 33430, 33460, 33463-33465, 33475,	

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
		33496, 33510-33519, 33521-33523, 33530, 33533-33536, 33542, 33545, 33548, 33572, 35211, 35241, 35271 General Thoracic Surgery: 19272, 21627, 21632, 21740, 21750, 21805, 21825, 31760, 31766, 31770, 31775, 31786, 31805, 32095, 32100, 32110, 32120, 32124, 32140, 32141, 32150, 32215, 32220, 32225, 32310, 32320, 32402, 32440, 32442, 32445, 32480, 32482, 32484, 32486, 32488, 32491, 32500, 32501, 32800, 32810, 32815, 32900, 32905, 32906, 32940, 33020, 33025, 33030, 33031, 33050, 33300, 33310, 33320, 34051, 35021, 35216, 35246, 35276, 35311, 35481, 35526, 37616, 38381, 38746, 38747, 39000, 39010, 39200, 39220, 39545, 39561, 60521, 60522, 64746 Foot & Ankle: 27702, 27703, 27704, 27870, 28192, 28193, 28293, 28296, 28299, 28300, 28306, 28307, 28308, 28309, 28310, 28320, 28322, 28415, 28420, 28445, 28465, 28485, 28505, 28525, 28531, 28555, 28585, 28615, 28645, 28675, 28705, 28715, 28725, 28730, 28735, 28737, 28740, 28750, 28755, 28760	
Exclusions	Exclusions include: - Patients who had a principal diagnosis suggestive of preoperative infectious diseases - Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope - Patients enrolled in clinical trials - Patients with documented infection prior to surgical procedure of interest - Patients who expired perioperatively - Patients who were receiving antibiotics more than 24 hours prior to surgery - Patients who were receiving antibiotics within 24 hours prior to arrival - Patients who did not receive any antibiotics before or during surgery, or within 24 hours after anesthesia end time (i.e.,	Documentation of medical reason(s) for not ordering cefazolin OR cefuroxime for antimicrobial prophylaxis.	•pre-operative infectious disease •Infectious diseases (001.0-139.8) •Meningitis (320.0-326) •Ear infection (380.0-380.23; 382.0-382.20) •Endocarditis (421.0-422.99) •Respiratory (460-466.19; 472-476.1; 480-487.1; 490-491.9; 510-511.9; 513-413.1) •Digestive (540-542; 575.0) •Renal (590-590.9; 595.0) •Prostate (601.0-601.9) •Gynecologic (614-614.9; 616-616.4) •Skin (680-686.9) •Musculo-skeletal (711.9-711.99, 730.0-730.99) •Fever of unknown origin (780.6) •Septic shock (785.59) •Bacteremia (790.7) •Viremia (790.8) •Receiving antibiotics at the time of admission (except colon surgery patients taking oral prophylactic antibiotics) •Medical records do not include antibiotic start date/time or incision date/time, or surgery end date/time •Receiving antibiotics > 24 hours

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
	patient did not receive prophylactic antibiotics) - Patients who did not receive any antibiotics during this hospitalization This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions. AbxSelect is marked "Exclusion"		prior to surgery (except colon surgery patients taking oral prophylactic antibiotics) •No antibiotics received before or during surgery, or within 24 hours after surgery end time (i.e., patient did not receive any prophylactic antibiotics)
Exclusion Details		Append modifier to CPT Category II code: 4041F-1P	Data Elements: Birthdate Clinical Trial ICD-9-CM Principal Diagnosis Code Infection Prior to Anesthesia Laparoscope Perioperative Death
Risk Adjustment	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary
Stratification	N/A		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 be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-2 are 5.01 to 5.08.
Type Score	Rate/proportion		Rate/proportion
Algorithm	N/A		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 for Centers for Medicare and Medicaid Services (CMS). Proceed to step 57 and check the Stratified Measures for Overall

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			Rate (SCIP-Inf-2a) for The Joint Commission. 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 Procedure Code a. If the ICD-9-CM Principal Procedure Code is not on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and proceed to recheck ICD-9-CM Principal Diagnosis Code. 5.Check ICD-9-CM Principal Diagnosis Code a. If the ICD-9-CM Principal Diagnosis Code is on Table 5.09, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the ICD-9-CM Principal Diagnosis Code is not on Table 5.09, continue processing and proceed to Laparoscope. 6.Check Laparoscope a. If Laparoscope is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Laparoscope equals 1 or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			2a) for The Joint Commission. c. If Laparoscope equals 2, continue processing and proceed to Clinical Trial. 7.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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Clinical Trial equals No, continue processing and proceed to Anesthesia Start Date. 8.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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Anesthesia Start Date equals a Non Unable To Determine Value, continue processing and proceed to the Surgery Days calculation. 9.Calculate Surgery Days. Surgery Days, in days, is equal to the Anesthesia Start Date minus the Admission Date. 10.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 for

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Surgery Days is greater than or equal to zero, continue processing and proceed to Infection Prior to Anesthesia. 11.Check Infection Prior to Anesthesia a. If Infection Prior to Anesthesia is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Infection Prior to Anesthesia equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Infection Prior to Anesthesia equals No, continue processing and proceed to Perioperative Death. 12.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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Perioperative Death equals No, continue processing and proceed to Surgical Incision Date. 13.Check Surgical Incision Date a. If the Surgical Incision Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP- Inf-2a) for The Joint Commission. b. If the Surgical Incision 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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Surgical Incision Date equals a Non Unable To Determine Value, continue processing and proceed to Antibiotic Received. 14.Check Antibiotic Received a. If Antibiotic Received equals 1 or 2, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code b. If Antibiotic Received equals 4, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Antibiotic Received equals 3, continue processing and proceed to step 18 and check Antibiotic Name. Do not check ICD-9-CM Principal Procedure Code, Oral Antibiotics or Antibiotic Received. 15.Recheck ICD-9-CM Principal Procedure Code only if Antibiotic Received equals 1 or 2 a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and proceed to check Oral Antibiotics. 16.Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to recheck Antibiotic Received. 17.Recheck Antibiotic Received a. If Antibiotic Received equals 1, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Antibiotic Received equals 2, continue processing and proceed to Antibiotic Name. 18.Check Antibiotic Name a. If the Antibiotic Grid is not populated, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. Note: The front-end edits reject cases containing invalid data and/or an incomplete Antibiotic Grid. A complete Antibiotic Grid requires all data elements in the row to contain either a valid value and/or Unable to Determine. b. If the Antibiotic Name is on Table 2.1, continue processing and proceed to Antibiotic Administration Route. 19.Check Antibiotic Administration Route a. If the Antibiotic Administration Route is equal to 3 or 10 for all antibiotic doses, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Administration Route is equal to 1 or 2 for any antibiotic dose, continue processing and proceed to Antibiotic Administration Date. Proceed only with antibiotic doses on Table 2.1 that are administered via routes 1 or 2. 20.Check Antibiotic Administration Date a. If the Antibiotic Administration Date is equal to Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Administration Date is equal to a Non Unable to Determine date for at least one antibiotic dose, continue processing and proceed to the Antibiotic Days I calculation. Note: Proceed only with antibiotic doses that have an associated Non Unable to Determine date. 21.Calculate Antibiotic Days I. Antibiotic Days I, in days, is equal to the Surgical Incision Date minus the Antibiotic Administration Date. 22.Check Antibiotic Days I a. If the Antibiotic Days I is greater than 1 for at least one antibiotic dose, continue processing and recheck the ICD-9-CM Principal Procedure Code. Do not recheck step 25 Antibiotic Days I, step 26 Surgical Incision Time, step 27 Antibiotic Administration Time, or step 29 Antibiotic Timing I. b. If the Antibiotic Days I is less than or equal to 1 for all antibiotic doses, continue processing. Proceed to step 25 and recheck Antibiotics Days I. Do not recheck ICD-9-CM Principal Procedure Code or Oral Antibiotics. 23.Recheck ICD-9-CM Principal Procedure Code only if the Antibiotics Days was greater than 1 for at least one antibiotic dose

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and check Oral Antibiotics. 24.Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing. Proceed to step 33 and check Anesthesia End Date. Do not recheck step 25 Antibiotic Days I, step 26 Surgical Incision Time, step 27 Antibiotic Administration Time, or step 29 Antibiotic Timing I. 25.Recheck Antibiotic Days I only if Antibiotic Days I is less than or equal to 1 for all antibiotic doses a. If the Antibiotic Days I is less than or equal to zero for all antibiotic doses, continue processing. Proceed to step 33 and check Anesthesia End Date. Do not check step 26 Surgical Incision Time, step 27 Antibiotic Administration Time, or step 29 Antibiotic Timing I. b. If the Antibiotic Days I is equal to 1 for ANY antibiotic dose, continue processing and proceed to Surgical Incision Time. 26.Check Surgical Incision Time a. If the Surgical Incision Time is missing, the case will proceed to a

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Surgical Incision Time is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If the Surgical Incision Time is equal to a Non Unable to Determine Value, continue processing and check Antibiotic Administration Time. 27.Check Antibiotic Administration Time a. If the Antibiotic Administration Time equals Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Administration Time equals a Non Unable to Determine time for at least one antibiotic dose, continue processing and recheck Antibiotic Administration Time. 28.Recheck Antibiotic Administration Time a. If the Antibiotic Administration Time equals Unable to Determine for ANY antibiotic dose with Antibiotic Days equal to 1, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Administration Time equals a Non Unable to Determine time for All antibiotic doses with Antibiotic Days equal to 1, continue processing and proceed to

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			the Antibiotic Timing I calculation. 29.Calculate Antibiotic Timing I. Antibiotic Timing I, in minutes, is equal to the Surgical Incision Date and Surgical Incision Time minus the Antibiotic Administration Date and Antibiotic Administration Time. Calculate Antibiotic Timing I for all antibiotic doses with Non Unable to Determine date and time. Proceed with antibiotic doses that have Antibiotic Timing I calculated, or Antibiotic Days I less than or equal to zero. 30.Check Antibiotic Timing I a. If the Antibiotic Timing I is greater than 1440 minutes for any antibiotic dose, continue processing and recheck the ICD-9-CM Principal Procedure Code. Proceed with antibiotic doses that have Antibiotic Timing I calculated, or Antibiotic Days I less than or equal to zero. b. If the Antibiotic Timing I is less than or equal to 1440 minutes for all antibiotic doses with non Unable to Determine date and time, continue processing and proceed to step 33 and check Anesthesia End Date. Proceed with antibiotic doses that have Antibiotic Timing I calculated, or Antibiotic Days I less than or equal to zero. Do not recheck ICD-9-CM Principal Procedure Code or Oral Antibiotics. 31.Recheck ICD-9-CM Principal Procedure Code only if Antibiotic Timing I is greater than 1440 for any antibiotic dose a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and check Oral Antibiotics. 32.Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to Anesthesia End Date. 33.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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 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 for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If the Anesthesia End Date equals a Non Unable to Determine Value, continue processing and proceed to the Antibiotic Days II calculation. 34.Calculate Antibiotic Days II. Antibiotic Days II, in days, is equal to the Antibiotic Administration Date minus the Anesthesia End Date. 35.Check Antibiotic Days II a. If the Antibiotic Days II is less than or equal to zero for all doses of all antibiotics, continue processing. Proceed to step 41 and recheck Antibiotic Administration Route. Do not check step 37 Anesthesia End Time, step 38 Antibiotic Administration Time, or step 39 Antibiotic Timing II. b. If the Antibiotic Days II is greater than zero for at least one dose of any antibiotic, continue processing and proceed to Initialize the Abxday flag.

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			36.Initialize Abxday flag. Initialize Abxday flag to equal ?No´ for each antibiotic dose. Set Abxday flag to equal ´Yes? for each antibiotic dose where Antibiotic Days II is less than or equal to zero. 37.Check Anesthesia End Time a. If the Anesthesia End Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Anesthesia End Time is equal to Unable to Determine, continue processing and proceed to check the Abxday flag. 1.If the Abxday flag equals No for All doses, the case will proceed to a Measure Category Assignment of D of will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 2.f the Abxday flag equals Yes for ANY dose, continue processing and proceed to step 41. Proceed only with doses where the Abxflag is equal to Yes. c. If the Anesthesia End Time is equal to a Non Unable to Determine Value, continue processing and recheck Antibiotic Administration Time. 38.Recheck Antibiotic Administration Time a. If the Antibiotic Administration Time equals Unable to Determine for all antibiotic doses, continue processing and proceed to check the Abxday flag. 1.If the Abxday flag equals No for All doses, the case will proceed to a Measure Category Assignment of D of will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and recheck the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 2.If the Abxday flag equals Yes for ANY dose, continue processing and proceed to step 41 and recheck the Antibiotic Administration Route.

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			Proceed only with doses where the Abxflag is equal to Yes. Do not check Antibiotic Timing II. b. If the Antibiotic Administration Time equals a Non Unable to Determine time for at least one antibiotic dose, continue processing and proceed to the Antibiotic Timing II calculation. Proceed with both UTD and Non-UTD time. 39.Calculate Antibiotic Timing II. Antibiotic Timing II, in minutes, is equal to the Antibiotic Administration Date and Antibiotic Administration Time minus Anesthesia End Date and Anesthesia End Time. Calculate Antibiotic Timing II for all antibiotic doses with Non Unable to Determine date and time. Proceed with antibiotic doses that have Antibiotic Timing II calculated, or Abxday flag equal to Yes. 40.Check Antibiotic Timing II a. If the Antibiotic Timing II is greater than 1440 minutes for all doses of all Antibiotics with a Non Unable to Determine date and time, continue processing and proceed to check the Abxday Flag. Proceed with antibiotic doses that have Antibiotic Timing II calculated, or Abxday flag equal to Yes. 1.If the Abxday flag equals No for All doses, the case will proceed to a Measure Category Assignment of B of will not be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 2.If the Abxday flag equals Yes for ANY dose, continue processing and recheck the Antibiotic Administration Route. Proceed only with doses where the Abxflag is equal to Yes. b. If the Antibiotic Timing II is less than or equal to 1440 minutes for at least one dose of ANY antibiotic, continue processing and proceed to Antibiotic Administration Route. Proceed with antibiotic doses that have Antibiotic Timing II calculated, or Abxday flag equal to Yes.

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			41.Recheck Antibiotic Administration Route. For each case, proceed ONLY with those antibiotic doses that satisfy at least one of the following conditions: Antibiotic Timing II is less than or equal to 1440 or Abxday flag is equal to Yes. a. If the Antibiotic Administration Route equals 1 for all doses of all Antibiotics, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Administration Route equals 2 for any dose of any antibiotic, continue processing and proceed to recheck the ICD-9-CM Principal Procedure Code. Note: For each case include only those antibiotics with route IV for further processing. 42.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and proceed to step 46 and recheck Antibiotic Name. Do not recheck to determine if ICD-9-CM Principal Procedure Code is on Tables 5.01, 5.02, 5.04, 5.05, 5.06, 5.07, or 5.08 or if Antibiotic Name is on Table 3.2. b. If the ICD-9-CM Principal Procedure Code is on Tables 5.01, 5.02, 5.04, 5.05, 5.06, 5.07, or 5.08, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code. 43.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07, continue processing and proceed to recheck Antibiotic Name. 1.If the Antibiotic Name is on Table 3.7, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			Commission. 2.If the Antibiotic Name is not on Table 3.7, continue processing and proceed to step 46 and recheck Antibiotic Name. Do not recheck to determine if ICD-9-CM Principal Procedure Code is on Tables 5.01, 5.02, 5.04, 5.05, or 5.08 or if Antibiotic Name is on Table 3.2. b. If the ICD-9-CM Principal Procedure Code is on Tables 5.01, 5.02, 5.04, 5.05, or 5.08, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code. 44.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.01, 5.02, or 5.08, continue processing and proceed to recheck Antibiotic Name. 1.If the Antibiotic Name is on Table 3.1, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 2.If the Antibiotic Name is not on Table 3.1, continue processing and proceed to step 46 and recheck Antibiotic Name. Do not recheck to determine if ICD-9-CM Principal Procedure Code is on Tables 5.04 or 5.05 or if Antibiotic Name is on Table 3.2. b. If the ICD-9-CM Principal Procedure Code is on Tables 5.04 or 5.05, continue processing and proceed to recheck Antibiotic Name. 45.Recheck Antibiotic Name a. If the Antibiotic Name is on Table 3.2, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Name is not on Table 3.2, continue processing and proceed to recheck Antibiotic Name.

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			46.Recheck Antibiotic Name a. If the Antibiotic Name is on Table 3.6b, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Name is not on Table 3.6b, continue processing and proceed to recheck Antibiotic Name. 47.Recheck Antibiotic Name a. If the Antibiotic Name is on Table 3.5, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If the Antibiotic Name is not on Table 3.5, continue processing and proceed to recheck Antibiotic Name. 48.Recheck Antibiotic Name a. If the Antibiotic Name is on Table 3.2, continue processing and recheck Antibiotic Name. 1.If the Antibiotic Name is on Table 3.6a, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 2.If the Antibiotic name is not on Table 3.6a, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code. b. If the Antibiotic Name is not on Table 3.2, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code. 49.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.01, 5.02, 5.04, 5.05, or 5.08, continue processing and proceed to recheck Antibiotic Name. b. If the ICD-9-CM Principal Procedure Code is on Tables 5.03,

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			5.06 or 5.07, continue processing and proceed to step 54 and check Antibiotic Allergy, Do not check step 50 and 52 to see if Antibiotic Name is on Tables 3.8 or 3.9, step 51 Antibiotic Allergy or step 53 Vancomycin. 50.Recheck Antibiotic Name only if the ICD-9-CM Principal Procedure Code is on Table 5.01, 5.02, 5.04, 5.05, or 5.08 a. If none of the Antibiotic Names are on Table 3.8 and 3.9, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If at least one of the Antibiotic Names are on Table 3.8 or 3.9, continue processing and proceed to Antibiotic Allergy. 51.Check Antibiotic Allergy only if at least one of the Antibiotic Names are on Table 3.8 or 3.9 a. If Antibiotic Allergy is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Antibiotic Allergy equals Yes, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Antibiotic Allergy equals No, continue processing and proceed to recheck Antibiotic Name. 52.Recheck Antibiotic Name a. If none of the Antibiotic Names are on Table 3.8, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission.

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			b. If at least one of the Antibiotic Names are on Table 3.8, continue processing and proceed to check Vancomycin. 53.Check Vancomycin a. If Vancomycin is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If any Vancomycin value equals 9 and none of the values equal 1, 2, 3, 4, 5, 6, 7, 8, 10, or 11, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If any Vancomycin value equals 1, 2, 3, 4, 5, 6, 7, 8, 10, or 11 and none of the values equals 9, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 54.Check Antibiotic Allergy only if the ICD-9-CM Principal Procedure Code is on Table 5.03, 5.06, or 5.07 a. If Antibiotic Allergy is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If Antibiotic Allergy equals No, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. c. If Antibiotic Allergy equals Yes, continue processing and proceed to recheck Antibiotic Name. 55.Recheck Antibiotic Name

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			a. If at least one of the Antibiotic Names is on Table 3.9, continue processing and recheck Antibiotic Name. 1.If at least one of the Antibiotic Names is on Tables 2.11 or 3.12 or 2.7, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 57 and check the Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 2.If none of the Antibiotic Names are on Tables 2.11 or 3.12 or 2.7, continue processing and recheck Antibiotic Name. b. If none of the Antibiotic Names are on Table 3.9, continue processing and recheck Antibiotic Name. 56.Recheck Antibiotic Name a. If at least one of the Antibiotic Names is on Table 3.6a, continue processing and recheck Antibiotic Name. 1.If at least one of the Antibiotic Names is on Tables 2.11 or 3.12, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 2.If none of the Antibiotic Names are on Tables 2.11 or 3.12, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. b. If none of the Antibiotic Names are on Table 3.6a, the case will proceed to a Measure Category Assignment of D and will be in the measure population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-2a) for The Joint Commission. 57.For The Joint Commission Only, continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for each strata measure (b-g) to equal B,

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			not in the Measure Population. Do not change the Measure Category Assignment that was already calculated for the overall rate (SCIP-Inf-2a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate´s (SCIP-Inf-2a) Measure Category Assignment. 58.Check Overall Rate Category Assignment a. If the Overall Rate Category Assignment is equal to B or X, set the Measure Category Assignment for the strata measures (SCIP-Inf-2b through SCIP-Inf-2h) to equal B, not in the Measure Population. Stop processing. b. If the Overall Rate Category Assignment is equal to D or E, continue processing and check the ICD-9-CM Principal Procedure Code. Specifications Manual for National Hospital Inpatient Quality Measures Discharges 10-01-10 (4Q10) through 03-31-11 (1Q11) SCIP-Inf-2-30 59.Check ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.01, for Stratified Measure SCIP-Inf-2b, set the Measure Category Assignment for measure SCIP-Inf-2b to equal the Measure Category Assignment for measure SCIP-Inf-2a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the If the ICD-9-CM Principal Procedure Code. 60.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.02, for Stratified Measure SCIP-Inf-2c, set the Measure Category Assignment for measure SCIP-Inf-2c to equal the Measure Category Assignment for measure SCIP-Inf-2a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08,

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			continue processing and recheck the If the ICD-9-CM Principal Procedure Code. 61.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.04, for Stratified Measure SCIP-Inf-2d, set the Measure Category Assignment for measure SCIP-Inf-2d to equal the Measure Category Assignment for measure SCIP-Inf-2a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the If the ICD-9-CM Principal Procedure Code. 62.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.05, for Stratified Measure SCIP-Inf-2e, set the Measure Category Assignment for measure SCIP-Inf-2e to equal the Measure Category Assignment for measure SCIP-Inf-2a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.06 or 5.07 or 5.08, continue processing and recheck the If the ICD-9-CM Principal Procedure Code. 63.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.03, for Stratified Measure SCIP-Inf-2f, set the Measure Category Assignment for measure SCIP-Inf-2f to equal the Measure Category Assignment for measure SCIP-Inf-2a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07 or 5.08, continue processing and recheck the If the ICD-9-CM Principal Procedure Code. 64.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07, for Stratified Measure SCIP-Inf-2g, set the Measure Category

	Maintenance Measure 0126: Selection of antibiotic prophylaxis for cardiac surgery patients	**Endorsed Measure 0268:** Selection of prophylactic antibiotic: First or second generation cephalosporin	**Maintenance Measure 0528**: Prophylactic antibiotic selection for surgical patients
			Assignment for measure SCIP-Inf-2g to equal the Measure Category Assignment for measure SCIP-Inf-2a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.08, for Stratified Measure SCIP-Inf-2h, set the Measure Category Assignment for measure SCIP-Inf-2h to equal the Measure Category Assignment for measure SCIP-Inf-2a. Stop processing. **2a.22. Describe the method for discriminating performance** *(E.g., significance testing)* Benchmarks are established using the ABC methodology, based on the actual performance of the top facilities. ABC benchmarks identify superior performance and encourage poorer performers to improve. It is data-driven, peer-group performance feedback. Achievable Benchmarks of Care TM: developed at the University of Alabama at Birmingham for AHRQ. This methodology identifies benchmark care levels already achieved by "best-in-class" care givers. Development of benchmarks that are realistic and achievable may help to motivate providers that are having difficulty improving care. The benchmarks represent a measureable level of excellence that always exceeds average performance. It ensures that all superior providers contribute to the benchmark but also ensures that providers with high performance but very low numbers of cases do not unduly influence benchmark levels. Additional information can be found at http://main.uab.edu/show.asp?durki=14527
Data Source	Registry data	Electronic administrative data/claims, lab data, paper medical record/flow-sheet	Electronic administrative data/claims, paper medical record/flow-sheet
Level of Measurement /Analysis	Clinicians: Group; Facility/agency; Population: National, regional/network, states, counties or cities	Clinicians: Individual	Facility/agency
Care Settings	Hospital	Hospital, Ambulatory care: Ambulatory surgery center	Hospital

Prophylactic Antibiotics: Timing/Received

The measure focus for these measures is similar in terms of timing of prophylaxis with differences in population of interest and level of analysis.
Measure 0125 is specific to cardiac surgery; uses registry data; level of measurement is clinician group, facility in hospitals.
Measure 0527 is a SCIP measure; uses administrative/claims data; level of measurement is hospital.
Measure 0270 focuses on presence of orders for parenteral antibiotics though it can be met through documentation that antibiotic was given. It uses administrative/claims, medical record data; the level of measurement is clinicians, individual or group in hospital and ambulatory surgery centers.
Measure 0269 focuses on parenteral antibiotics for surgical patients to whom the identified antibiotics are given. It uses administrative/claims data; level of measurement is clinicians, individual or group in hospital and ambulatory surgery centers.
Measure 0472 is specific to cesarean delivery; uses medical record, lab, patient survey data; level of measurement is hospital.

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
Status	Currently undergoing maintenance review **Criteria met Y-17, N-2**	Currently undergoing maintenance review **Criteria met Y-17, N-1**	Endorsed 7/2008	Endorsed 11/2007	Endorsed 10/2008
Steward	Society of Thoracic Surgeons	Centers for Medicare & Medicaid Services	American Medical Association-Physician Consortium for Performance Improvement	National Committee for Quality Assurance, American Medical Association-Physician Consortium for Performance Improvement	Massachusetts General Hospital/Partners Health Care System
Description	Percent of patients aged 18 years and older undergoing cardiac surgery who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if receiving vancomycin or fluoroquinolone).	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	Percentage of surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic parenteral antibiotics, who have an order for prophylactic antibiotic to be given within one hour (if fluoroquinolone or vancomycin, two hours), prior to the surgical incision (or start of procedure when no incision is required)	Percentage of surgical patients aged > 18 years with indications for prophylactic parenteral antibiotics for whom administration of the antibiotic has been initiated within one hour (if vancomycin, two hours) prior to the surgical incision or start of procedure when no incision is required.	Percentage of patients undergoing cesarean section who receive prophylactic antibiotics within one hour prior to surgical incision or at the time of delivery.

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		fluoroquinolone, it is acceptable to start these antibiotics within two hours prior to incision time.			
Type of Measure	Process	Process	Process	Process	Process
Numerator	Number of patients undergoing cardiac surgery patients who received prophylactic antibiotics within one hour of surgical incision or start of procedure if no incision was required (two hours if vancomycin or fluoroquinolone). Time window: Within one hour of surgical incision or start of procedure if no incision was required (two hours if vancomycin or fluoroquinolone). Rationale: 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.	Surgical patients who received prophylactic antibiotics within 1 hour of surgical incision (2 hours if receiving vancomycin).	Surgical patients who have an order for prophylactic antibiotic to be given within one hour (if fluoroquinolone or vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required). Numerator Instructions: There must be documentation of order (written order, verbal order, or standing order/protocol) specifying that antibiotic is to be given within one hour (if fluoroquinolone or vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required) OR documentation that antibiotic has been given within one hour (if fluoroquinolone or vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required).	Surgical patients for whom administration of a prophylactic antibiotic has been initiated within one hour (if 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	Number of patients who received prophylactic antibiotics within one hour prior to surgical incision or at the time of delivery. Because delivery and administration of antibiotics are unlikely to be exactly simultaneous and watches imperfectly synchronized, in operational use there must be an allowance for a discrete period of time in the application of "at the time of delivery." We propose that administration should be considered acceptable if given within 10 minutes of delivery/cord clamping for those in whom prophylactic antibiotics are not given preooperatively.

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
				•Vancomycin	
Numerator Details	Number of cardiac surgery procedures in which timing of appropriate antibiotic administration [AbxTiming (STS Adult Cardiac Surgery Database Version 2.73)] is marked "yes"	Data Elements: Anesthesia Start Date Antibiotic Administration Date Antibiotic Administration Time Surgical Incision Date Surgical Incision Time	Report one of the following CPT Category II codes: Identify patients with documentation of order for prophylactic antibiotic: • CPT II 4047F: Documentation of order for prophylactic antibiotic 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). OR Documentation that prophylactic antibiotic has been given within one hour prior to the surgical incision (or start of procedure when no incision is required). • CPT II 4048F: Documentation that prophylactic antibiotic was given within one hour (if fluoroquinolone or vancomycin, two hours) prior to surgical incision (or start of procedure when no incision is required).	Electronic Collection: G-codes or CPT Category II are used to report the numerator of the measure: 1. If reporting G-codes submit the appropriate G-code. 2. If reporting CPT Category II codes submit the appropriate CPT Category II code. Identify surgical patients who were administered prophylactic antibiotics (See Table 2A) within one hour (if vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required): •? GXXXXX: Clinician documented to have given the prophylactic antibiotic within one hour (if vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required). OR ? CPT II XXXXF: Documentation that prophylactic antibiotic was given within one hour (if vancomycin, two hours) prior to surgical	

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
				incision (or start of procedure when no incision is required). Medical Records: There must be documentation of order (written order, verbal order, or standing order/protocol) specifying that antibiotic is to be given within one hour (if vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required). A sample should be determined using the most accurate data available in the settings in which the measure will be implemented. Sample sizes may be defined by different implementers. Hybrid: Users should follow the requirements of electronic data collection, select a sample of patients, and then supplement the electronic data where needed with medical record abstraction of data elements to fulfill measure reporting requirements. EHR: Electronic Health	

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
				Record (EHR) users may opt to use this methodology or the electronic data collection methodology described previously. EHR users should collect data on 100% of their denominator population instead of a sample. EHR users may opt to use the codes listed in the electronic data collection methodology to identify patients with documentation of administration of prophylactic antibiotic.	
Denominator	Number of patients undergoing cardiac surgery. Time window: 12 months	Number of surgical patients with: CABG (ICD-9-CM procedure codes 36.10-36.14, 36.19, 36.15-36.17, 36.2), other cardiac surgery (35.0-35.95, 35.98, 35.99), colon surgery (45.00, 45.03, 45.41, 45.49, 45.50, 45.7-45.90, 45.92-45.95, 46.03, 46.04, 46.1-46.14, 46.52, 46.75, 45.76, 46.91, 46.92, 46.94, 48.5, 48.6-48.69), hip arthroplasty (81.51, 81.52), knee arthroplasty (81.54), abdominal hysterectomy (68.3, 68.4, 68.6), vaginal hysterectomy (68.5-68.59, 68.7), or vascular surgery (38.34,	All surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic parenteral antibiotics Denominator (Eligible Population): All surgical patients aged 18 years and older undergoing procedures with the indications for prophylactic parenteral antibiotics.	All surgical patients aged 18 years and older who have an order for a prophylactic parenteral antibiotic to be given within one hour (if vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required).	All patients undergoing cesarean section without evidence of prior infection or already receiving prophylactic antibiotics for other reasons.

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		38.36, 38.37, 38.44, 38.48, 38.49, 38.51, 38.52. 38.64, 38.14, 38.16, 38.18, 39.25, 39.26, 39.29)			
Denominator Categories	Female, Male; 18 and older	Female, Male; Patients aged 18 and older			
Denominator Details	Number of cardiac surgery procedures; A cardiac procedure is determined as a procedure for which at least one of the following is not marked "no" or "missing" (note: full terms for STS field names are provided in brackets []): OpCAB[Coronary Artery Bypass], OpValve[Valve Surgery], VADProc [VAD Implanted or Removed], VSAV [Aortic Valve Procedure], VSMV [Mitral Valve Procedure], OpTricus [Tricuspid Valve Procedure Performed], OpPulm[Pulmonic Valve Procedure Performed], OpOCard [Other Cardiac Procedure other than CABG or Valve], OCarLVA [Left Ventricular Aneurysm Repair], OCarVSD [Ventricular Septal Defect Repair], OCarSVR	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).	• CPT Procedure Codes Integumentary: 15734, 15738, 19260, 19271, 19272, 19301-19307, 19361, 19364, 19366-19369 Le Fort Fractures: 21422, 21423, 21346-21348, 21432, 21433, 21435, 21436 Mandibular Fracture: 21454, 21461, 21462, 21465, 21470 Spine: 22325, 22612, 22630, 22800, 22802, 22804, 63030, 63042 Hip Reconstruction: 27125, 27130, 27132, 27134, 27137, 27138 Trauma (Fractures): 27235, 27236, 27244, 27245, 27758, 27759, 27766, 27792, 27814 Knee Reconstruction: 27440-27443, 27445-27447 Laryngectomy: 31360, 31365, 31367, 31368, 31370, 31375, 31380, 31382, 31390, 31395 Vascular: 33877, 33880, 33881, 33883, 33886, 33891, 34800, 34802-	Electronic Collection: G-code, CPT-II code, and patient demographics (age, etc) are used to determine patients that are included in the measure: •? GXXXXX: Patient documented to have order for prophylactic parenteral antibiotic to be given within one hour (if vancomycin, two hours) prior to surgical incision (or start of procedure when no incision is required). OR •? CPT II XXXXF: Documentation of order for prophylactic parenteral antibiotic to be given within one hour (if vancomycin, two hours) prior to surgical incision (or start of procedure when no incision is required). Medical Records: There must be documentation of order (written order,	

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
	[Surgical Ventricular Restoration], OCarCong [Congenital Defect Repair], OCarTrma [surgical procedure for an injury due to Cardiac Trauma], OCarCrTx [Cardiac Transplant], OCarACD [Arrhythmia Correction Surgery], OCAoProcType[Aortic Procedure Type], EndoProc [Endovascular Procedure (TEVAR)], OCTumor [resection of an intracardiac tumor], OCPulThromDis [Pulmonary Thromboembolectomy,, OCarOthr [Other Cardiac Procedure other than those listed previously], ECMO [Extracorporeal Membrane Oxygenation], OCarLasr [-Transmyocardial Laser Revascularization], OCarASD [Atrial Septal Defect Repair], OCarAFibSur [Atrial Fibrillation Surgical Procedure]		34805, 34825, 34830-34832, 34900, 35081, 35091, 35102, 35131, 35141, 35151, 35601, 35606, 35612, 35616, 35621, 35623, 35626, 35631, 35636-35638, 35642, 35645-35647, 35650, 35651, 35654, 35656, 35661, 35663, 35665, 35666, 35671, 36830 Spleen and Lymph Nodes: 38115 Glossectomy: 41130, 41135, 41140, 41145, 41150, 41153, 41155 Esophagus: 43045, 43100, 43101, 43107, 43108, 43112, 43113, 43116-43118, 43121-43124, 43130, 43135, 43300, 43305, 43310, 43312, 43313, 43320, 43324-43326, 43330, 43331, 43340, 43341, 43350, 43351, 43352, 43360, 43361, 43400, 43401, 43405, 43410, 43415, 43420, 43425, 43496 Stomach: 43500-43502, 43510, 43520, 43600, 43605, 43610, 43611, 43620-43622, 43631-43634, 43640, 43641, 43653, 43800, 43810, 43820, 43825, 43830-43832, 43840, 43842, 43843,	verbal order, or standing order/protocol) specifying that antibiotic is to be given within one hour (if vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required). A sample should be determined using the most accurate data available in the settings in which the measure will be implemented. Sample sizes may be defined by different implementers. Hybrid: Users should follow the requirements of electronic data collection, select a sample of patients, and then supplement the electronic data where needed with medical record abstraction of data elements to fulfill measure reporting requirements. EHR: Electronic Health Record (EHR) users may opt to use this methodology or the electronic data collection methodology described previously. EHR users should collect data on	

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
			43845-43848, 43850, 43855, 43860, 43865, 43870 Small Intestine: 44005, 44010, 44020, 44021, 44050, 44055, 44100, 44120, 44125-44127, 44130, 44132, 44133, 44135, 44136 Colon and Rectum: 43880, 44025, 44110, 44111, 44140, 44141, 44143-44147, 44150, 44151, 44155-44158, 44160, 44202, 44204-44208, 44210-44212, 44300, 44310, 44312, 44314, 44316, 44320, 44322, 44340, 44345, 44346, 44602-44605, 44615, 44620, 44625, 44626, 44640, 44650, 44660, 44661, 44700, 44950, 51597 Anus and Rectum: 45108, 45110-45114, 45116, 45119-45121, 45123, 45126, 45130, 45135, 45136, 45150, 45160, 45170, 45190, 45500, 45505, 45520, 45540, 45541, 45550, 45560, 45562, 45563, 45800, 45805, 45820, 45825 Hepatic Surgery: 47133, 47135, 47136, 47140-47142 Biliary Surgery: 47420, 47425, 47460, 47480,	100% of their denominator population instead of a sample. EHR users may opt to use the codes listed in the electronic data collection methodology to identify all patients aged 18 years and older who have an order for a parenteral antibiotic to be given within one hour (if vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required).	

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
			47560, 47561, 47570, 47600, 47605, 47610, 47612, 47620, 47700, 47701, 47711, 47712, 47715, 47719-47721, 47740, 47741, 47760, 47765, 47780, 47785, 47800, 47802, 47900 Pancreas: 48020, 48100, 48120, 48140, 48145, 48146, 48148, 48150, 48152-48155, 48160, 48500, 48510, 48511, 48520, 48540, 48545, 48547, 48548, 48550, 48554, 48556 Abdomen, Peritoneum, and Omentum: 49215, 49568 Renal Transplant: 50300, 50320, 50340, 50360, 50365, 50370, 50380 Gynecologic Surgery: 58150, 58152, 58180, 58200, 58210, 58260, 58262, 58263, 58267, 58270, 58275, 58280, 58285, 58290-58294 Acoustic Neuroma: 61591, 61595, 61596, 61598, 61520, 61526, 61530, 61606, 61616, 61618, 61619, 69720, 69955, 69960, 69970 Cochlear Implants: 69930 Neurological Surgery: 22524, 22554, 22558, 22600, 22612, 22630, 35301, 61154, 61312,		

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
			61313, 61315, 61510, 61512, 61518, 61548, 61697, 61700, 61750, 61751, 61867, 62223, 62230, 63015, 63020, 63030, 63042, 63045, 63047, 63056, 63075, 63081, 63267, 63276 Cardiothoracic Surgery: 33120, 33130, 33140, 33141, 33202, 33250, 33251, 33256, 33261, 33305, 33315, 33321, 33322, 33332, 33335, 33400, 33401, 33403-33406, 33410, 33411, 33413, 33416, 33422, 33425-33427, 33430, 33460, 33463-33465, 33475, 33496, 33510-33519, 33521-33523, 33530, 33533-33536, 33542, 33545, 33548, 33572, 35211, 35241, 35271 Cardiothoracic (Pacemaker): 33203, 33206-33208, 33212-33218, 33220, 33222-33226, 33233-33238, 33240, 33241, 33243, 33244, 33249, 33254, 33255 Genitourinary Surgery: 51550, 51555, 51565, 51570, 51575, 51580, 51585, 51590, 51595, 51596, 51920, 51925, 52450, 52601, 52612,		

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
			52614, 52620, 52630, 52647, 52648, 54401, 54405, 54406, 54408, 54410, 54415, 54416, 55801, 55810, 55812, 55815, 55821, 55831, 55840, 55842, 55845 General Thoracic Surgery: 19272, 21627, 21632, 21740, 21750, 21805, 21825, 31760, 31766, 31770, 31775, 31786, 31805, 32095, 32100, 32110, 32120, 32124, 32140, 32141, 32150, 32215, 32220, 32225, 32310, 32320, 32402, 32440, 32442, 32445, 32480, 32482, 32484, 32486, 32488, 32491, 32500, 32501, 32800, 32810, 32815, 32900, 32905, 32906, 32940, 33020, 33025, 33030, 33031, 33050, 33300, 33310, 33320, 34051, 35021, 35216, 35246, 35276, 35311, 35481, 35526, 37616, 38381, 38746, 38747, 39000, 39010, 39200, 39220, 39545, 39561, 60521, 60522, 64746. Foot & Ankle: 27702, 27703, 27704, 27870, 28192, 28193, 28293, 28296, 28299, 28300, 28306, 28307, 28308,		

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
			28309, 28310, 28320, 28322, 28415, 28420, 28445, 28465, 28485, 28505, 28525, 28531, 28555, 28585, 28615, 28645, 28675, 28705, 28715, 28725, 28730, 28735, 28737, 28740, 28750, 28755, 28760		
Exclusions	Cases are removed from the denominator if the patient had a documented contraindication or rationale for not administering antibiotic in medical record. Other exclusions include: - Patients who had a principal diagnosis suggestive of preoperative infectious diseases - Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope - 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 - Patients who were receiving antibiotics	•Principal or admission diagnosis suggestive of pre-operative infectious disease •Infectious diseases (001.0-139.8) •Meningitis (320.0-326) •Ear infection (380.0-380.23; 382.0-382.20) •Endocarditis (421.0-422.99) oRespiratory (460-466.19; 472-476.1; 480-487.8; 490-491.9; 510-511.9; 513-513.1) •Digestive (540-542; 575.0) •Renal (590-590.9; 595.0) •Prostate (601.0-601.9) •Gynecologic (614-614.9; 616-616.4) •Skin (680-686.9) •Musculo-skeletal (711.9-711.99, 730-730.99) •Fever of unknown origin (780.6) •Septic shock (785.59)	Documentation of medical reason(s) for not ordering antibiotics to be given within one hour (if fluoroquinolone or vancomycin, two hours) prior to the surgical incision (or start of procedure when no incision is required).	N/A	

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
	within 24 hours prior to arrival This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions.	•Bacteremia (790.7) •Viremia (790.8) •Receiving antibiotics at the time of admission (except colon surgery patients taking oral prophylactic antibiotics) •Medical records do not include antibiotic start date/time or incision date/time •Receiving antibiotics more than 24 hours prior to surgery (except colon surgery patients taking oral prophylactic antibiotics) •Colon surgery patients who received oral prophylactic antibiotics only			
Exclusion Details	Timing of appropriate antibiotic administration (AbxTiming) is marked "Exclusion"	Data Elements: Admission Date Antibiotic Received Birthdate Clinical Trial Discharge Date Infection Prior to Anesthesia Laparoscope Oral Antibiotics Other Surgeries	Append modifier to CPT Category II code: 4047F-1P		
Risk Adjustment	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary	No risk adjustment necessary
Stratification	N/A	The antibiotic prophylaxis measures are stratified			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		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 be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-1 are 5.01 to 5.08.			
Type Score	Rate/proportion	Rate/proportion			
Algorithm	N/A	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 the 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			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		processing for Centers for Medicare and Medicaid Services (CMS). Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the 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 Procedure Code a. If the ICD-9-CM Principal Procedure Code is not on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code. 5.Recheck ICD-9-CM			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07, continue processing and check ICD-9-CM Other Procedure Code. 1.If any of the ICD-9-CM Other Procedure Codes are on Table 4.07, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. 2.If all of the ICD-9-CM Other Procedure Codes are missing or none are on Table 4.07, continue processing and proceed to ICD-9-CM Principal Diagnosis Code. b. If the ICD-9-CM Principal Procedure Code is not on Table 5.06 or 5.07, continue processing and proceed to ICD-9-CM Principal Diagnosis Code. 6.Check ICD-9-CM Principal Diagnosis Code a. If the ICD-9-CM Principal Diagnosis Code is on Table 5.09, the case will			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the ICD-9-CM Principal Diagnosis Code is not on Table 5.09, continue processing and proceed to Laparoscope. 7.Check Laparoscope a. If Laparoscope is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If Laparoscope equals 1 or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission.			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		c. If Laparoscope equals 2, continue processing and proceed to Clinical Trial. 8.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 for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. 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 for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Clinical Trial equals No, continue processing and proceed to Anesthesia Start Date. 9.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 for CMS.			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. 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 for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission c. If Anesthesia Start Date equals a Non Unable To Determine Value, continue processing and proceed to the Surgery Days calculation. 10.Calculate Surgery Days. Surgery Days, in days, is equal to the Anesthesia Start Date minus the Admission Date. 11.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 for CMS. Proceed to step 36 and check the Stratified			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the Surgery Days is greater than or equal to zero, continue processing and proceed to Infection Prior to Anesthesia. 12.Check Infection Prior to Anesthesia a. If Infection Prior to Anesthesia is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If Infection Prior to Anesthesia equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Infection Prior to Anesthesia equals No, continue processing and proceed to Other Surgeries. 13.Check Other Surgeries			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		a. If Other Surgeries is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If Other Surgeries equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Other Surgeries equals No, continue processing and proceed to Surgical Incision Date. 14.Check Surgical Incision Date a. If the Surgical Incision Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP- Inf-1a) for The Joint			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Commission. b. If the Surgical Incision 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 for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Surgical Incision Date equals a Non Unable To Determine Value, continue processing and proceed to Antibiotic Received. 15.Check Antibiotic Received a. If Antibiotic Received equals 1 or 2, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code b. If Antibiotic Received equals 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Antibiotic Received equals 3, continue			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		processing and proceed to step 19 and check Antibiotic Name. Do not check ICD-9-CM Principal Procedure Code, Oral Antibiotics or Antibiotic Received. 16.Recheck ICD-9-CM Principal Procedure Code only if Antibiotic Received equals 1 or 2 a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and proceed to check Oral Antibiotics. 17.Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to recheck Antibiotic Received. 18.Recheck Antibiotic Received a. If Antibiotic Received equals 1, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If Antibiotic Received equals 2, continue processing and proceed to Antibiotic Name. 19.Check Antibiotic Name a. If the Antibiotic Grid is not populated, the case will			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. Note: The front-end edits reject cases containing invalid data and/or an incomplete Antibiotic Grid. A complete Antibiotic Grid requires all data elements in the row to contain either a valid value and/or Unable to Determine. b. If the Antibiotic Name is on Table 2.1, continue processing and proceed to Antibiotic Administration Route. 20.Check Antibiotic Administration Route a. If the Antibiotic Administration Route is equal to 3 or 10 for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission.			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		b. If the Antibiotic Administration Route is equal to 1 or 2 for any antibiotic dose, continue processing and proceed to Antibiotic Administration Date. Proceed only with antibiotic doses on Table 2.1 that are administered via routes 1 or 2. 21.Check Antibiotic Administration Date a. If the Antibiotic Administration Date is equal to Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the Antibiotic Administration Date is equal to a Non Unable to Determine date for at least one antibiotic dose, continue processing and proceed to the Antibiotic Days I calculation. Note: Proceed only with antibiotic doses that have an associated non Unable to Determine date.			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		22.Calculate Antibiotic Days I. Antibiotic Days I, in days, is equal to the Surgical Incision Date minus the Antibiotic Administration Date. 23.Check Antibiotic Days I a. If the Antibiotic Days I is greater than 1 for at least one antibiotic dose, continue processing and recheck the ICD-9-CM Principal Procedure Code. b. If the Antibiotic Days I is less than or equal to 1 for all antibiotic doses, continue processing. Proceed to step 26 and recheck Antibiotics Days I. Do not recheck ICD-9-CM Principal Procedure Code or Oral Antibiotics. 24.Recheck ICD-9-CM Principal Procedure Code only if the Antibiotic Days I is greater than 1 for at least one antibiotic dose a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		(SCIP-Inf-1a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and check Oral Antibiotics. 25.Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to step 27 and check Surgical Incision Time. Do not recheck Antibiotic Days I. 26.Recheck Antibiotic Days I			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		a. If the Antibiotic Days I is less than zero for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the Antibiotic Days I is greater than or equal to zero for any antibiotic dose, continue processing and proceed to Surgical Incision Time. 27.Check Surgical Incision Time a. If the Surgical Incision Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the Surgical Incision Time is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If the Surgical Incision Time is equal to a Non Unable to Determine Value, continue processing and check Antibiotic Administration Time. 28.Check Antibiotic Administration Time a. If the Antibiotic Administration Time equals Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the Antibiotic Administration Time equals a Non Unable to Determine time for at least one antibiotic dose, continue processing and proceed to the Antibiotic Timing I calculation. Note: Proceed only with antibiotic doses that have an associated non Unable to Determine time. 29.Calculate Antibiotic			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Timing I. Antibiotic Timing I, in minutes, is equal to the Surgical Incision Date and Surgical Incision Time minus the Antibiotic Administration Date and Antibiotic Administration Time. 30.Check Antibiotic Timing I a. If the Antibiotic Timing I is greater than 1440 minutes for any antibiotic dose, continue processing and recheck the ICD-9-CM Principal Procedure Code. b. If the Antibiotic Timing I is less than or equal to 1440 minutes for all antibiotic doses, continue processing. Proceed to step 33 and recheck Antibiotic Timing I. Do not recheck ICD-9-CM Principal Procedure Code or Oral Antibiotics. 31.Recheck ICD-9-CM Principal Procedure Code only if the Antibiotic Timing I is greater than 1440 minutes for any antibiotic dose a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and check Oral Antibiotics. 32.Check Oral Antibiotics a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If Oral Antibiotics equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop Specifications Manual for National Hospital Inpatient Quality Measures Discharges 10-01-10 (4Q10) through 03-31-11 (1Q11) SCIP-Inf-1-18 processing for CMS. Proceed to step 36 and check the Stratified			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. c. If Oral Antibiotics equals Yes, continue processing and proceed to recheck Antibiotic Timing I. 33.Recheck Antibiotic Timing I a. If the Antibiotic Timing I is greater than or equal to zero minutes and less than or equal to 60 minutes for at least one antibiotic dose, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the Antibiotic Timing I is less than zero minutes or greater than 60 minutes for all antibiotic doses, continue processing and recheck Antibiotic Name. 34.Recheck Antibiotic Name a. If the Antibiotic Name is on Table 3.8 or Table 3.10 for at least one dose, continue processing and recheck Antibiotic Timing I.			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		b. If the Antibiotic Name is not on Table 3.8 or Table 3.10 for any dose, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Do not recheck Antibiotic Timing I. Stop processing for CMS. Proceed to step 36 and check the Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. 35.Recheck Antibiotic Timing I a. If the Antibiotic Timing I is greater than 60 minutes and less than or equal to 120 minutes for at least one antibiotic dose on Table 3.8 or Table 3.10, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. b. If the Antibiotic Timing I is less than zero minutes or greater than 120 minutes for all antibiotic doses on Table 3.8 or Table 3.10, the case will proceed to a Measure Category Assignment of D			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		and will be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-1a) for The Joint Commission. 36.For The Joint Commission Only, continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for each strata measure (b-g) to equal B, not in the Measure Population. Do not change the Measure Category Assignment that was already calculated for the overall rate (SCIP-Inf-1a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate´s (SCIP-Inf-1a) Measure Category Assignment. 37.Check Overall Rate Category Assignment a. If the Overall Rate Category Assignment is equal to B or X, set the Measure Category Assignment for the strata measures (SCIP-Inf-1b through SCIP-Inf-1h) to equal B, not in the Measure Population. Stop processing.			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		b. If the Overall Rate Category Assignment is equal to D or E, continue processing and check the ICD-9-CM Principal Procedure Code. 38.Check ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.01, for Stratified Measure SCIP-Inf-1b, set the Measure Category Assignment for measure SCIP-Inf-1b to equal the Measure Category Assignment for measure SCIP-Inf-1a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 39.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.02, for Stratified Measure SCIP-Inf-1c, set the Measure Category Assignment for measure SCIP-Inf-1c to equal the Measure Category Assignment for measure SCIP-Inf-1a. Stop			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 40.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.04, for Stratified Measure SCIP-Inf-1d, set the Measure Category Assignment for measure SCIP-Inf-1d to equal the Measure Category Assignment for measure SCIP-Inf-1a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 41.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.05, for Stratified Measure SCIP-Inf-1e, set the Measure Category Assignment for measure SCIP-Inf-1e to equal the Measure Category			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		Assignment for measure SCIP-Inf-1a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 42.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.03, for Stratified Measure SCIP-Inf-1f, set the Measure Category Assignment for measure SCIP-Inf-1f to equal the Measure Category Assignment for measure SCIP-Inf-1a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code. 43.Recheck ICD-9-CM Principal Procedure Code a. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07, for Stratified Measure SCIP-Inf-1g, set the Measure Category Assignment for measure SCIP-Inf-1g to			

	Maintenance Measure 0125: Timing of antibiotic prophylaxis for cardiac surgery patients	**Maintenance Measure 0527**: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1	**Endorsed Measure 0270:** Timing of antibiotic prophylaxis- ordering physician	**Endorsed Measure 0269:** Timing of prophylactic antibiotics - administering physician	**Endorsed Measure 0472:** Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
		equal the Measure Category Assignment for measure SCIP-Inf-1a. Stop processing. b. If the ICD-9-CM Principal Procedure Code is on Table 5.08, for Stratified Measure SCIP-Inf-1h, set the Measure Category Assignment for measure SCIP-Inf-1h to equal the Measure Category Assignment for measure SCIP-Inf-1a. Stop processing.			
Data Source	Registry data	Electronic administrative data/claims, paper medical record/flow-sheet	Electronic administrative data/claims, lab data, paper medical record/flow-sheet	Electronic administrative data/claims	Lab data, paper medical record/flow-sheet, survey: patient
Level of Measurement /Analysis	Clinicians: Group; Facility/agency; Population: National, regional/network, states, counties or cities	Facility/agency	Clinicians: Individual, group	Clinicians: individual	Facility/agency
Care Settings	Hospital	Hospital	Hospital, Ambulatory care: Ambulatory surgery center	Hospital, Ambulatory care: Ambulatory surgery center	Hospital

Statin Medication

The measures focus on statin therapy at discharge in different populations - patients undergoing CABG (0118) or LEB (1519) surgeries.
Both use registry data to provide information about clinicians in hospital settings.

	Maintenance Measure 0118: Anti-lipid treatment discharge	**New Candidate Measure 1519:** Statin therapy at discharge after lower extremity bypass (LEB)
Status	Currently undergoing maintenance review **Criteria met Y-20, N-0**	Currently undergoing review **Criteria met Y-19, N-0** **SC requested improved precision of numerator and denominator**
Steward	Society of Thoracic Surgeons	Society of Vascular Surgery
Description	Percent of patients aged 18 years and older undergoing isolated CABG who were discharged on a statin or other lipid-lowering regimen.	Percentage of patients aged 18 years and older undergoing infrainguinal lower extremity bypass who are prescribed a statin medication at discharge. This measure is proposed for both hospitals and individual providers.
Type of Measure	Process	Process
Numerator	Number of patients undergoing isolated CABG who were discharged on a statin or other lipid-lowering regimen. Time window:	Patients undergoing infrainguinal lower extremity bypass who are prescribed a statin medication at discharge. Time window: Last 50 consecutive procedures for provider reporting with suppression if <10 procedures, 12 months for hospital reporting.
Numerator Details	Number of isolated CABG procedures in which discharge lipid lowering medication [DCLipid (STS Adult Cardiac Surgery Database Version 2.73)] is marked "yes"	A registry that includes anatomic details or CPT procedure codes is required to identify patients for numerator inclusion. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE)registries capture detailed anatomic information. Infrainguinal lower extremity bypass is defined as a bypass beginning at or below the external iliac artery and extending into the ipsilateral leg. It includes procedures with CPT codes 35656, 35556, 35583, 35666, 35566, 35585, 35671, 35571, 35587. The numerator is calculated as the number of patients age 18 and over undergoing such a procedure who are prescribed a statin medication at the time of discharge, which is also captured in the above registries.
Denominator	All patients undergoing isolated CABG.	All patients aged 18 years and older undergoing lower extremity bypass as

	Maintenance Measure 0118: Anti-lipid treatment discharge	**New Candidate Measure 1519:** Statin therapy at discharge after lower extremity bypass (LEB)
		defined above who are discharged alive, excluding those patients who are intolerant to statins. Time window: Since hospitals have sufficient annual volume to generate accurate reporting levels, these are proposed for reporting every 12 months for hospital. Since surgeons have lower individual volume, we recommend annual reporting of the last 50 consecutive procedures, which may span more than one year, with suppression if < 10 procedures (i.e., reported as too low volume to report).
	Time window: 12 months	
Denominator Categories	Female, Male; 18 yrs and older	Female, Male; 18 years or older
Denominator Details	Number of isolated CABG procedures excluding cases with in-hospital mortality or cases for which discharge anti-lipid treatment use was contraindicated. Isolated CABG is determined as a procedure for which all of the following apply: - OpCAB is marked "Yes" - (VADProc is marked "No" or "Missing") or (VADProc is marked "Yes, Implanted" and UnplVAD is marked "yes") - OCarASDTy is marked "PFO" or "missing" - OCarAFibAProc is marked "primarily epicardial" or "missing" and - OpValve, VSAV, VSAVPr, ResectSubA, VSMV, VSMVPr, OpTricus, OpPulm, OpONCard, OCarLVA, OCarVSD, OCarSVR, OCarCong, OCarTrma, OCarCrTx, OCAoProcType, EndoProc, OCTumor, OCPulThromDis, OCarOthr are all marked "no" or "missing"	A registry that includes anatomic details or CPT procedure codes is required to identify patients for denominator inclusion. The Society for Vascular Surgery Vascular Quality Initiative and the Vascular Study Group of New England registries capture detailed anatomic information. Infrainguinal lower extremity bypass is defined as a bypass beginning at or below the external iliac artery and extending into the ipsilateral leg. It includes procedures with CPT codes 35656, 35556, 35583, 35666, 35566, 35585, 35671, 35571, 35587. Only patients who are discharged alive are included in the denominator, and patients who are intolerant to statins are excluded, as described below.
Exclusions	Cases are removed from the denominator if there was an in-hospital mortality or if discharge anti-lipid treatment was contraindicated.	Chart documentation that patient was not an eligible candidate for statin therapy due to known drug intolerance, or patient died before discharge.
Exclusion Details	Mortality Discharge Status (MtDCStat), Mortality Date (MtDate), and Discharge Date (DischDt) indicate an in-hospital mortality; DCLipid is marked as "Contraindicated"	Chart documentation that patient was not an eligible candidate for statin therapy due to known drug intolerance, or patient died before discharge. These data are captured in the SVS VQI and VSGNE registries.
Risk Adjustment	No risk adjustment necessary	No risk adjustment necessary
Stratification		Not required
Type Score	Rate/proportion	Rate/proportion

	Maintenance Measure 0118: Anti-lipid treatment discharge	**New Candidate Measure 1519:** Statin therapy at discharge after lower extremity bypass (LEB)
Algorithm		All patients age 18 and older undergoing infrainguinal LEB who were prescribed statin at discharge divided by (all patients over 18 undergoing infrainguinal LEB minus those intolerant to statins minus those who died before discharge).
Data Source	Registry data	Registry data
Level of Measurement /Analysis	Clinicians: Group; Facility/agency; Population: National, regional/network, states, counties or cities	Clinicians: Individual, group; Facility/agency; Can be measured at all levels
Care Settings	Hospital	Hospital

NQF MEMBER AND PUBLIC COMMENT

No comments were made.

NEXT STEPS

Ms. Murphy highlighted the upcoming Surgery Endorsement Maintenance Pre-Voting Webinar on August 16, 2011. This meeting will provide an opportunity for NQF members and the public to review and discuss the Phase I draft report with a co-chair of the Steering Committee and a member of Consensus Standards Approval Committee (CSAC) before NQF members vote on the recommended measures for endorsement. The Committee was invited to attend. Simultaneously with the webinar, the Phase I draft report will be posted to the NQF website for 15- day Member voting period on August 16, 2011. Ms. Murphy mentioned that the Phase II draft report would be posted to the NQF website for Member and public comment within the next several weeks.

Ms. Forman requested that the Steering Committee review the updated Committee response's to the submitted comments from the Public and Member Comment period on the Phase I draft report by August 8, 2011. Additionally, Ms. Forman reminded the Steering Committee members to respond to the availability surveys regarding future conference call dates.