NATIONAL QUALITY FORUM

CONFERENCE CALL OF THE SURGERY ENDORSEMENT MAINTENANCE 2010 STEERING COMMITTEE

July 25, 2011

Committee Members Present: Arden Morris, MD, MPH, FACS (co-chair), University of Michigan; David Torchiana, MD (co-chair), Massachusetts General Physicians Organization; Nasim Afsar-manesh, MD, UCLA Medical Center; James Carpenter, MD, University of Michigan; Curtis Collins, PharmD, MS, BCPS AQ-ID, University of Michigan Health System; 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; Renae Stafford, MD, MPH, FACS, University of North Carolina-Chapel Hill; Carol Wilhoit, MD, MS, Blue Cross Blue Shield of Illinois; Christine Zambricki, CRNA, MS, FAAN, American Association of Nurse Anesthetists.

NQF Staff Present: Helen Burstin, MD, MPH, Senior Vice President for Performance Measures; Alexis Forman, MPH, Senior Project Manager; Glyndon Morris, Director of Measures Maintenance, M.Div.; Melinda Murphy, RN, MS, NE-BC, Senior Director; Jessica Weber, MPH, Project Analyst.

Measure Developers Present: Lindsey Adams, Society for Vascular Surgeons; H. Vernon Anderson, American College of Cardiology; John Bott, Agency for Healthcare Research and Quality; Carla Chronister, Oklahoma Foundation for Medical Quality; Sheryl Davies, Stanford University; Lacy Fabian, Agency for Healthcare Research and Quality; Jeffrey Geppert, Agency for Healthcare Research and Quality; Jane Han, The Society of Thoracic Surgeons; Wanda Johnson, Oklahoma Foundation for Medical Quality; Flora Lum, American Academy of Ophthalmology; Kristyne McGuinn, American College of Cardiology; Joan Michaels, American College of Cardiology; Bijan Niknam, Children's Hospital of Philadelphia; Kenneth Rosenfield, Massachusetts General Hospital; Elvira Ryan, The Joint Commission; David Shahian, The Society of Thoracic Surgeons; Jeffrey Silber, Children's Hospital of Philadelphia; Lara Slattery, American College of Cardiology; Donna Slosburg, ASC Quality Collaboration; Quindella Williams, American College of Cardiology; Kim Wood, Surgical Care Affiliates.

Others Present: Gaetano Paone, Henry Ford Hospital.

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:

- for the Surgery Steering Committee to review and discuss the comments received during the Phase I NQF Public and Member Comment period,
- determine the course of action for the submitted comments; and
- to continue reviewing the measure developers' response to the Committee's suggested modifications for nine Phase II measures in preparation for final recommendations.

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

PUBLIC AND MEMBER COMMENTS

The Surgery Phase I Public and Member Comment period closed on July 12, 2011. A total of 35 comments from 11 individuals or organizations were received on measures both recommended and not recommended for endorsement as well as some general comments. Please see the Surgery project page for a spreadsheet of all of the comments received, including final responses from the Steering Committee. In addition, comments were referred to the measure developers and their responses have been included along with the Committee's responses.

The following themes were identified in the comments received and were addressed by the Steering Committee. A summary of comments and responses are provided for each measure in the evaluation summary tables that follow.

General Comments

Inclusion of individual clinician level of measurement
Commenters suggested that the Society of Thoracic Surgeons (STS) report the performance of individual clinicians to provide consumers with information to make educated decisions about their healthcare and to advance the quality of care at the clinician level. The measure developer indicated that the number of procedures performed by individual surgeons is low and, for CABG, continues to decline such that ability to discriminate performance is not reliable; that selection of providers for CABG surgery should be based on competence of the entire team; and that clinician level reporting could produce risk aversion. The Committee agreed that where appropriate, reporting at the clinician level is important but should be done only where the issues are carefully considered. It noted that groups and hospitals can generate individual clinician information from the STS measures for use in quality improvement activities.

Use of hierarchical logistic regression modeling
Multiple comments were submitted with the concern of risk adjustment models not accounting for patient risk factors and variation of care. The Committee believes it is important that measures take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. The CSAC will further address the risk modeling issue in November 2011.

Comments on Measures Recommended for Endorsement

Inclusion of age specifications
Comments were submitted regarding the need to include the age range of the target population in the measure descriptions and denominator statements in addition to further into the specifications. STS has added the age range to each of their measures in the requested location within the specifications. CMS has been encouraged to do so as well. NQF is working to develop additional guidance to measure developers to encourage greater standardization on how measure specifications are defined.

Comments on Measures Recommended for Endorsement and Placement in Reserve Status

Opposition of recommendation of measure 0113
Several comments were put forward concerning the Committee's recommendation regarding measure 0113: Participation in a systematic database for cardiac surgery. Commenters indicated that the measure has a performance rate of 95 percent and there is a lack of evidence on whether participation in a registry alone improves quality of care. The measure developer noted that there are observational data that registries do make contributions to quality improvement. The Committee maintained its recommendation for continued endorsement with placement in reserve status based on its determination that this measure is highly credible, reliable and valid and provides a way to collect and benchmark facility data to improve healthcare quality.

Comments on Measures Not Recommended for Endorsement

Encouragement to recommend measure 0124
Numerous comments were received asking the Committee to reconsider its decision to not recommend measure 0124: Surgical volume-a. isolated coronary artery bypass graft (CABG) surgery, b. valve surgery, c. CABG + valve surgery for NQF endorsement. Commenters believe volume is linked to providing a higher quality of care and patient outcomes. The Committee, as well as the developer, noted that there is not a strong volume/outcome relationship for CABG and maintained its recommendation.

EVALUATION SUMMARY TABLES

Evaluation Summary—Candidate Consensus Standards Recommended for Endorsement

The summary of the comments and subsequent actions are highlighted in the evaluation summary tables below.

Cardiac—CABG

Cardiac—CABG: Valve Replacement/ Repair

Esophageal Resection and Transfusion

Cardiac—CABG and Prophylaxis

Venous Thromboembolism (VTE)

0114 Risk-adjusted post-operative renal failure
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG (without pre-existing renal failure) who develop post-operative renal failure or require dialysis. Numerator Statement: Number of patients undergoing isolated CABG (without pre-existing renal failure) who develop post-operative renal failure or require dialysis. Denominator Statement: All patients undergoing isolated CABG. Exclusions: Patients with documented history of renal failure, baseline serum creatinine of 4.0 or higher; prior renal transplants are not considered pre-operative renal failure unless since transplantation their Cr has been or is 4.0 or higher. Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-17; N-1; A-1 Rationale: This is an important metric for benchmarking data on patients undergoing isolated CABG who develop post-operative renal failure or require dialysis.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. 2. 2a.1 Numerator Statement: The statement does not indicate participation in the STS database is required. 3. 2a.2 Numerator Time Window: Provide the time period in which cases are eligible for inclusion in the numerator. 4. 2a.3 Numerator Details: Provide a more detailed definition of renal failure. Consideration should be given to using the RIFLE criteria. 5. 2a.8 Denominator Details: Are re-operated patients included? 6. 4e.2 Costs to Implement the Measure: The cost of data abstraction needs to be clearer. Developer Response: 1. Data on disparities are provided in the form. 2. Participation in the STS Database is not required 3. During the hospitalization for surgery, which includes the entire postoperative period up to discharge, even if over 30 days. 4. STS will use the RIFLE criteria in its analyses and report of the renal failure measure. The renal failure section of the STS Adult Cardiac Surgery Database, v2.73 Training Manual will be harmonized with the risk, injury and failure categories of the RIFLE criteria. For cases entered in the STS Database from July 2011 onward, renal failure rates reported quarterly to STS Database Participants will reflect the RIFLE criteria definition. Please note that due to the specification upgrade schedule for the STS Adult Cardiac Surgery Database, the RIFLE categories of loss and ESKD cannot be captured at this time. STS intends to make these changes during the next specification upgrade scheduled to take place in 2013. New numerator details: Definition of renal failure/dialysis requirement – Patients with acute renal failure or worsening renal function resulting in one or both of the following: - Increase of serum creatinine to ≥ 4.0 or 3x the most recent preoperative creatinine level

0114 Risk-adjusted post-operative renal failure
- New requirement for dialysis postoperatively 5. Yes, re-operated patients are included 6. Approximately one FTE per 500 cases Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate, including that related to the fact that long term data from use of the RIFLE criteria will not be available until sometime after implementation.
1. Importance to Measure and Report: Y-22; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Patients with post-operative renal failure are a high-risk group.
2. Scientific Acceptability of Measure Properties: C-3; P-18; 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: Specifications were incomplete. There is no stated numerator time window. Without a specified time period, this becomes open to interpretation by coders. The Committee suggested the developer used the RIFLE criteria when defining renal failure. There was not an exclusion for emergency CABG cases, which are more susceptible to the development of renal failure due to pateints being sicker to begin with and the need for blood transfusions.
3. Usability: C-12; P-9; M-0; N-1 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: This measure seemed valuable from the quality improvement perspective.
4. Feasibility: C-14; 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 cost of data abstraction was not clearly indicated. The developer did not provide the cost of hiring employees to perform data abstraction.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; • support for and against risk adjustment; and • requests to reconsider endorsement based on bundling of outcomes. The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. Comments specific to the measure included concern that risk-adjusted post operative renal failure may not be modifiable without affecting other outcomes measures and may be confusing for public reporting. The Steering Committee reaffirmed their endorsement of this measure for quality improvement and public reporting. Bundling complications can add power to the ability for greater discrimination thus there is value in portraying things such as complications in this way. The reporting approach is not delineated though NQF-endorsed™ guidance for reporting is included in the report titled National Voluntary Consensus Standards for Public Reporting of Patient Safety Event Information.

0115 Risk-adjusted surgical re-exploration
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who require a return to the operating room for bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason. Numerator Statement: Number of patients undergoing isolated CABG who require return to the operating room for mediastinal bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason. Denominator Statement: All patients undergoing isolated CABG. Exclusions: N/A

0115 Risk-adjusted surgical re-exploration
Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-19; N-0; A-1 Rationale: This is an important internal metric for cardiothoracic surgery practices to help focus supportive efforts on surgical and anesthesia providers with a high rate of required re-operation.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. 2. 2a.2 Numerator Time Window: Provide the time period in which cases are eligible for inclusion in the numerator. Developer Response: 1. Data on disparities are provided in the form. 2. During the hospitalization for surgery, which includes the entire postoperative period up to discharge, even if over 30 days. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-22; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Though it is unproven as to whether surgical re-exploration has a direct impact on outcomes; from the patient perspective, an additional surgical procedure is itself an important and adverse outcome.
2. Scientific Acceptability of Measure Properties: C-19; 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: This is easy to measure accurately. The measure has face validity in that any return to the OR is considered a complication of the surgical procedure. The Committee questioned why the return to the OR was only for cardiac reasons. Evidence indicates that approximately 80 percent of the reasons for an OR return is because of bleeding or graft occulusion. The issue of risk adjustment was discussed. It was indicated that the measure should not be risk adjusted. If the measure is risk-adjusted then it is hard to find out exactly which specific conditions or procedure will lead to an OR return.
3. Usability: C-20; P-2; 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. Committee members discussed the potential of 'gaming' to fullfil the requirements of the measure. The Committee recognized there isn't a way to prevent gaming and trusts that gaming will not become an issue.
4. Feasibility: C-21; 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: All data elements are available electronically.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; • support for and against risk adjustment; and The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. Comments specific to the measure suggested it would be more informative to separate re-exploration for bleeding from re-exploration for other causes. The Committee determined this measure addresses surgical re-exploration as a complication of the surgical procedure and

0115 Risk-adjusted surgical re-exploration
acknowledges that bleeding is one of the major causes.

0129 Risk-adjusted prolonged intubation (ventilation)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who require intubation for more than 24 hours Numerator Statement: Number of patients undergoing isolated CABG who require intubation > 24 hours. Denominator Statement: All patients undergoing isolated CABG. Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-15; N-4; A-1 Rationale: Intubation is linked to morbidty, and an increase in length-of-stay, cost and resource utilization. The Committee suggested in the future the developer submit a companion measure at the next maintenance review that focuses on the median time to extubation for patients with whom are intubated for less than 24 hours.
If applicable, Conditions/Questions for Developer: 1. De.2 Measure Description: Please consider change in time limit to a period that is less than 24 hours 2. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Considering the increased complexity of current CT patients, a time period significantly less than 24 hrs (e.g. 6 or 12 hours) would not be appropriate as a *routine performance measure*, even though that is achievable in many patients. In some patients, such a measure could result in the adverse unintended consequences of premature extubation, subsequent ventilatory failure, and re-intubation. 2. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate though lacks some discriminatory power and suggested that in the future STS should submit a complementary measure that focuses on appropriate intubation time for patients.
1. Importance to Measure and Report: Y-22; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Although the measure compliance is above 90 percent, the Committee felt compliance should be closer to 100 percent.
2. Scientific Acceptability of Measure Properties: C-17; P-5; 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: One potential confounder is the post-CABG patient who is extubatable by clinical criteria but is kept intubated beyond 24 hours due an unrelated unscheduled second surgery the next day. The Committee questioned the developer as to why 24 hours was selected as the standard as opposed to a shorter time period. The literature identifies a range of times, associated with length of stay in ICU and hospital as well as relationship to anesthesia. One study reported that 39 percent of all patients were extubated within 6 hours, 89 percent within 24 hours and 95 percent within 48 hours. Committee members indicated that in their experience the majority of patients are off ventilators sooner than 24 hours..
3. Usability: C-20; P-2; 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.
4. Feasibility: C-20; P-1; 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: Easily captured and derived from electronic sources.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and • support for and against risk adjustment.

0129 Risk-adjusted prolonged intubation (ventilation)
The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement.

0131 Risk-adjusted stroke/cerebrovascular accident
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours Numerator Statement: Number of patients undergoing isolated CABG who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours. Denominator Statement: All patients undergoing isolated CABG. Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-20; N-1; A-0 Rationale: It is an important clinical condition to publicly report.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. 2. 2a.2 Numerator Time Window: Provide the time period in which cases are eligible for inclusion in the numerator. 3. 2a.9 Denominator Exclusions: Please reconsider exclusion of patients with prior CVA; suggest this exclusion be removed or rationale for retaining it be provided in more detail. Developer Response: 1. Data on disparities are provided in the form. 2. During the hospitalization for surgery, which includes the entire postoperative period up to discharge, even if over 30 days. 3. STS will remove this exclusion. STS adjusts for prior CVA in the STS risk model. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-22; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Measuring the number of patients whose postoperative stroke was not resolved within 24 hours will provide the opportunity to improve quality of care. With 1.0 as the median, STS data shows an incidence range from 0.6 – 2.1 with 1.2 and 0.8 at the 25th and 75th quartiles respectively. Up to a 13+ percent incidence of stroke has been reported.
2. Scientific Acceptability of Measure Properties: C-12; P-10; 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: This measure has significant face validity. Because it is a low-incidence event, large numbers are required for effective interpretation. The reproducibility of reporting centers from year to year is low. A center could have an excellent score one year and a bad score the following year. There was concern as to whether this truly represents the care at individual hospitals. The Committee questioned how the exclusion of a prior CVA is calculated. The Committee recommended that patients with a prior CVA should be included to see if prior CVA had worsened as a result of the CABG operation.
3. Usability: C-17; 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: Useful as a measure where the data is aggregated nationally. Due to this being a low frequency event, it will be hard to directly apply the results at the provider level or in an individual practice or hospital though it can prove useful as a trigger tool.
4. Feasibility: C-18; 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)*

0131 Risk-adjusted stroke/cerebrovascular accident
Rationale: The Committee was not sure how well automated electronic data (such as ICD-9 codes) can be used to define this measure. Cognitive defects can be subtle, and may require more focused testing that would increase the cost of data collection and complexity of this measure.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; • support for and against risk adjustment; and • requests to reconsider endorsement based on bundling of outcomes. The Steering Committee discussed the level of analysis and was sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. Comments specific to the measure included concern that risk-adjusted stroke/cerebrovascular accident may not be modifiable without affecting other outcomes measures and may be confusing for public reporting. The Steering Committee reaffirmed their endorsement of this measure for quality improvement and public reporting. Bundling complications can add power to the ability for greater discrimination thus there is value in portraying things such as complications in this way. The reporting approach is not delineated though NQF-endorsed™ guidance for reporting is included in the report titled National Voluntary Consensus Standards for Public Reporting of Patient Safety Event Information.

0119 Risk-adjusted operative mortality for CABG
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the CABG was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Numerator Statement: Number of patients undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the operation was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure Denominator Statement: All patients undergoing isolated CABG. Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-19; N-1; A-0 Rationale: Mortality is an important concept to measure and report.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-21; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Understanding how to prevent mortality will provide better clinical outcomes. Data from the STS database reviewed and published reports a 30 day operative death rate of 3.05% and suggests that such site specific data can be useful to evaluate care quality and focus on areas for improvement. The developer was asked to provide data regarding disparities that will be considered prior to final action by the committee.
2. Scientific Acceptability of Measure Properties: C-17; P-5; M-0; N-0

0119 Risk-adjusted operative mortality for CABG
(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 risk-adjusted mortality rate and if it identified whether patients who should be doing well are actually doing well within institutions. The Committee expressed interest in being able to obtain the volume of surgeries performed in an institution stratified in terms of actual risk for individual patients and whether those patients who, statistically, are expected to survive actually survive. The measure does not consider the volume of the programs.
3. Usability: C-20; P-2; 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 and useful for public reporting and quality improvement.
4. Feasibility: C-20; P-2; 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 data can be derived from electronic sources.
Public and Member Comments: General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and • support for and against risk adjustment. The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement.

0120 Risk-adjusted operative mortality for aortic valve replacement (AVR)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing Aortic Valve Replacement (AVR)who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure Numerator Statement: Number of patients undergoing AVR who die, including both 1) all deaths occurring during the hospitalization in which the operation was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure Denominator Statement: All patients aged 18 years and older undergoing isolated AVR surgery. Exclusions: N/A. Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-19; N-1; A-0 Rationale: Aortic valve replacement is a high risk surgery and factors that can improve outcomes can be studied from this measure.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-20; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Important measure for determining the delivery of care in a cardiac program. The summary of evidence of high impact is strong.
2. Scientific Acceptability of Measure Properties: C-20; P-1; M-0; N-0

0120 Risk-adjusted operative mortality for aortic valve replacement (AVR)
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities) Rationale: Specifications are well defined and the risk adjustment methodology is appropriate and clearly described.
3. Usability: C-20; 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 straightforward and easy to understand. It is focused on one, clearly defined procedure, and the outcome (mortality) is determined by multiple contributing factors that when identified can be targets of quality improvement initiatives. This measure is currently not being publicly reported; reporting is expected within 12 months.
4. Feasibility: C-21; P-0; 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 data capture process for the database is extensive and well constructed.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and • support for and against risk adjustment. The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. The Steering Committee supported changing the measure descriptions and denominator statements that were requested. Comments specific to the measure included a request that age specification be included in the measure description and denominator statements. The Steering Committee supports the change and the measure developer agreed to modify the measure descriptions and denominator statements to include age specifications.

0121 Risk-adjusted operative mortality for mitral valve (MV) replacement
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing MV replacement who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Numerator Statement: Number of patients undergoing MV replacement who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Denominator Statement: All patients aged 18 years and older undergoing isolated MV replacement surgery. Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-19; N-1; A-0 Rationale: The measure was well defined and constructed providing ability to drill down for information regarding in hospital and post discharge deaths. Having such data at the levels of analysis can help planning toward strategies to prevent mortality and ultimately provide better clinical outcomes.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response:

0121 Risk-adjusted operative mortality for mitral valve (MV) replacement
1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-21; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The procedure is important to measure and report. Having the ability to review organizational performance against that of peers and against oneself over time has been shown to facilitate insights that can result in improvement in risk assessment, patient selection and ultimately outcomes.
2. Scientific Acceptability of Measure Properties: C-20; P-1; 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 specifications are well defined.
3. Usability: C-21; P-0; 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 straightforward and easy to understand. This measure is currently not being publicly reported; reporting is expected within 12 months.
4. Feasibility: C-21; P-0; 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 data is derived from electronic sources.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and, • support for and against risk adjustment. The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. The Steering Committee supported changing the measure descriptions and denominator statements that were requested. Comments specific to the measure included a request that age specification be included in the measure description and denominator statements. The Steering Committee supports the change and the measure developer agreed to modify the measure descriptions and denominator statements to include age specifications.

0122 Risk-adjusted operative mortality MV replacement + CABG surgery
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing combined MV replacement and CABG who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Numerator Statement: Number of patients undergoing combined MV replacement and CABG who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Denominator Statement: All patients aged 18 years and older undergoing combined MV replacement + CABG. Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73

0122 Risk-adjusted operative mortality MV replacement + CABG surgery
Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-19; N-1; A-0 Rationale: Signifcant procedure in cardiac surgery.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-19; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Important measure for the relatively small number of centers that perform this type of surgery given the increasing use in an older population with greater numbers and more severe co-morbid risk factors.
2. Scientific Acceptability of Measure Properties: C-16; 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 measure is precisely specified.
3. Usability: C-16; P-3; 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 question of whether the measure is useful due to the small number of centers that perform the surgery was discussed and decided in favor of the measure's use. This measure is currently not being publicly reported; reporting is expected within 12 months.
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: Audit process is well structured.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and • support for and against risk adjustment. The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. The Steering Committee supported changing the measure descriptions and denominator statements that were requested. Comments specific to the measure included a request that age specification be included in the measure description and denominator statements. The Steering Committee supports the change and the measure developer agreed to modify the measure descriptions and denominator statements to include age specifications.

0123 Risk-adjusted operative mortality for aortic valve replacement (AVR) + CABG surgery
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing combined AVR and CABG who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Numerator Statement: Number of patients undergoing combined AVR and CABG who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Denominator Statement: All patients aged 18 years and older undergoing combined AVR + CABG.

0123 Risk-adjusted operative mortality for aortic valve replacement (AVR) + CABG surgery
Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-19; N-1; A-0 Rationale: The performance gap varies by facility.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-20; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: It is a critical outcome that varies in performance.
2. Scientific Acceptability of Measure Properties: C-18; P-2; 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: A higher risk population is undergoing this surgery; the case mix risk model is appropriate for the population. The reliability and validity testing will allow organizations to provide consistent and credible results
3. Usability: C-19; P-2; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: This measure is currently not being publicly reported; strategy for reporting puts CABG procedures out first with other to follow. This and related measures are expected to be publicly reported within 24-36 months.
4. Feasibility: C-21; P-0; 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 information can be derived from electronic sources.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and • support for and against risk adjustment. The Steering Committee discussed the level of analysis and were sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. The Steering Committee supported changing the measure descriptions and denominator statements that were requested. Comments specific to the measure included a request that age specification be included in the measure description and denominator statements. The Steering Committee supports the change and the measure developer agreed to modify the measure descriptions and denominator statements to include age specifications.

1501 Risk-adjusted operative mortality for mitral valve (MV) repair
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing MV Repair who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the

1501 Risk-adjusted operative mortality for mitral valve (MV) repair
hospital, but within 30 days of the procedure. (This measure applies to the procedure of MV repair, regardless of approach) *Note: This measure was formerly endorsed as a component of Measure 0121* Numerator Statement: Number of patients undergoing MV repair who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Denominator Statement: All patients aged 18 years and older undergoing isolated MV Repair surgery (This measure applies to the procedure of MV repair, regardless of approach) Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-21; N-0; A-0 Rationale: The measure provides an additive value to measures on cardiac surgical care.
If applicable, Conditions/Questions for Developer: 1. De.2 Measure Description & 2a.4 Denominator Statement: Please clarify that the measure applies to open chest procedures. 2. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. The measure applies to the procedure of MV repair, regardless of approach. 2. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-21; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: This procedure is important to measure and report.
2. Scientific Acceptability of Measure Properties: C-19; P-2; 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 is precisely specified.
3. Usability: C-19; P-2; 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 easy to understand.
4. Feasibility: C-21; P-0; 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: Easily measured and derived from electronic sources.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and • support for and against risk adjustment. The Steering Committee discussed the level of analysis and was sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. The Steering Committee supported changing the measure descriptions and denominator statements that were requested. Comments specific to the measure included a request that age specification be included in the measure description and denominator statements.

1501 Risk-adjusted operative mortality for mitral valve (MV) repair
The Steering Committee supports the change and the measure developer agreed to modify the measure descriptions and denominator statements to include age specifications.

1502 Risk-adjusted operative mortality for MV repair + CABG surgery
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing combined MV repair and CABG who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. *Note: This measure was formerly endorsed as a component of Measure 0122.* Numerator Statement: Number of patients undergoing combined MV repair and CABG who die, including both 1) all deaths occurring during the hospitalization in which the procedure was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure. Denominator Statement: All patients aged 18 years and older undergoing combined MV repair + CABG Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-21; N-0; A-0 Rationale: Important measure with variation of performance.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-21: N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Mortality varies for this procedure.
2. Scientific Acceptability of Measure Properties: C-16; 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 is precisely specified.
3. Usability: C-20; 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 easy to understand.
4. Feasibility: C-21; P-0; 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: Easily measured and derived from electronic sources.
Public and Member Comments Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; and • support for and against risk adjustment. The Steering Committee discussed the level of analysis and was sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. The Steering Committee supported changing the measure descriptions and

1502 Risk-adjusted operative mortality for MV repair + CABG surgery
denominator statements that were requested. Comments specific to the measure included a request that age specification be included in the measure description and denominator statements. The Steering Committee supports the change and the measure developer agreed to modify the measure descriptions and denominator statements to include age specifications.

0360 Esophageal resection mortality rate (IQI 8)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Number of inpatient deaths per 100 discharges with a procedure for esophageal resection Numerator Statement: Number of deaths among cases meeting the inclusion and exclusion rules for the denominator. Denominator Statement: Discharges, age 18 years and older, with ICD-9-CM esophageal resection procedure code and a diagnosis code of esophageal cancer in any field OR gastrectomy procedure code ONLY if accompanied by selected diagnosis codes. Exclusions: Exclude discharges with pregnancy, discharge to a short term hospital or missing information for discharge disposition, age or sex. Adjustment/Stratification: case mix adjustment/Observed rates may be stratified by age group, race/ethnicity categories, payer categories and sex. 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: Y-20; N-0; A-0 Rationale: Numerous studies have demonstrated a high variability in surgical mortality, largely influenced by hospital volume. The adoption of such a measure would encourage quality improvement at low-volume centers, or patients seeking care at centers with better results. Continued measurement and reporting of this measure is warranted as it will help advance the understanding of variations in outcome for esophageal resection and identify best practices. For reporting, this measure is to be paired with 0361, Esophageal resection volume . In considering potential harmonization with NQF-endorsed™ Measure 0737, Survival predictor for esophagectomy surgery, the Committee determined that the measure differences support maintaining the measures without harmonization work at this time.
If applicable, Conditions/Questions for Developer: Endorsement recommendation is based on developer commitment to ensure that the 0360 and 0361 are harmonized and reported as a pair.
1. Importance to Measure and Report: Y-18; N-4 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Esophagectomy for cancer carries a high risk of mortality given the magnitude of the procedure and the high risk population in which it is performed.
2. Scientific Acceptability of Measure Properties: C-3; 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: While this is an important measure, the relatively low volume of esophagectomies performed on an annual basis will make inter-hospital comparisons statistically difficult, especially for low-volume centers.
3. Usability: C-6; P-13; 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 Committee discussed the issue of low-volume centers and if their mortality could adequately predict future mortality. Concerns of consumers misinterpreting the data of low-volume centers were expressed.
4. Feasibility: C-17; P-4; 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 information is derived from electronic administrative data/claims.
Public and Member Comments No comments were received on this measure.

0361 Esophageal resection volume (IQI 1)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Number of discharges with a procedure for esophageal resection. Numerator Statement: Discharges, age 18 years and older, with ICD-9-CM code for esophageal resection in any procedure field OR gastrectomy procedure code ONLY if accompanied by selected diagnosis codes. Denominator Statement: N/A Exclusions: N/A Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. 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: Y-20; N-0; A-0 Rationale: Numerous studies have demonstrated high variability in surgical mortality, largely influenced by hospital volume. The adoption of such a measure would encourage quality improvements at low-volume centers, or patients seeking care at centers with better results. Continued measurement and reporting of this measure is warranted as it will help advance our understanding of variations in outcome for esophageal resection and identify best practices. For reporting, this measure is to be paired with 0360, Esophageal resection mortality rate..
If applicable, Conditions/Questions for Developer: Endorsement recommendation is based on developer commitment to ensure that the 0360 and 0361 are harmonized and reported as a pair.
1. Importance to Measure and Report: Y-18; N-4 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Esophagectomy for cancer carries a high risk of mortality given the magnitude of the procedure and the high risk population in which it is performed.
2. Scientific Acceptability of Measure Properties: C-8; P-11; 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: Mortality rates provide more valuable information than volume. The Committee questioned if this measure was necessary since volume is a proxy for mortality and decided the measure is appropriately used and reported but should remain paired with 0360 and not reported as a stand-alone.
3. Usability: C-7; P-14; M-1; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: Concerns of consumers misinterpreting the data of low-volume centers were expressed.
4. Feasibility: C-17; 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 information is derived from electronic administrative data/claims.
Public and Member Comments No comments were received on this measure.

0116 Anti-platelet medication at discharge
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who were discharged on anti-platelet medication. Numerator Statement: Number of patients undergoing isolated CABG who were discharged on anti-platelet medication. Denominator Statement: All patients undergoing isolated CABG. Exclusions: Cases are removed from the denominator if there was an in-hospital mortality or if discharge aspirin was contraindicated. In other words, if discharge aspirin is marked contraindicated or there is an in-hospital mortality, the patient is excluded from the denominator, and therefore, the measure is calculated without those patients. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Process Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611

0116 Anti-platelet medication at discharge
Steering Committee Recommendation for Endorsement: Y-20; N-0; A-0 Rationale: Though the measure has been in use for multiple years, there is still a performance gap; provider organizations ranges from 85-100 percent.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. 2. 2a Measure Specifications: When are denominator exclusions with respect to calculating the numerator? 3. 2a.2 Numerator Time Window: Provide the time period in which cases are eligible for inclusion in the numerator. 4. Indicate acceptability of Plavix/clopidogrel, where applicable, throughout. The numerator statement includes anti-platelet medications; however, the denominator excludes those with an aspirin contraindication. Is a patient who is on Plavix because of an aspirin contraindication counted in the numerator or excluded from the denominator? Developer Response: 1. Data on disparities are provided in the form. 2. If discharge aspirin is marked contraindicated or there is an in-hospital mortality, the patient is excluded from the denominator, and therefore, the measure is calculated without those patients. 3. Indicated in the measure 4. Existing numerator details state that either discharge aspirin or ADP inhibitors are acceptable. If a patient is on Plavix due to an aspirin contraindication, s/he is counted in the numerator because STS accepts either ASA or ADP inhibitors for the numerator (i.e., Number of isolated CABG procedures in which discharge aspirin [DCASA] or discharge ADP inhibitors [DCADP] is marked "yes"). Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-21; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The use of anti-platelet therapy at discharge is currently an accepted standard of care to improve bypass graft patency and promote secondary prevention of coronary artery disease and performance gap remains.
2. Scientific Acceptability of Measure Properties: C-18; 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 Committee was uncertain as to when exclusions were applied. The Committee questioned if Plavix was an acceptable alternative if aspirin is contraindicated.
3. Usability: C-21; P-0; 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 widely used both as a CMS PQRI measure (measure 169) and at hospitals that are participating in the STS Adult Cardiac Surgery Database providing information that providers can use to analyze and improve anti-platelet use practices.
4. Feasibility: C-20; 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 can be easily implemented.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient. The Steering Committee discussed the level of analysis and was sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement.

0118 Anti-lipid treatment discharge
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who were discharged on a statin or other lipid-lowering regimen.

0118 Anti-lipid treatment discharge
Numerator Statement: Number of patients undergoing isolated CABG who were discharged on a statin or other lipid-lowering regimen. Denominator Statement: All patients undergoing isolated CABG. Exclusions: Cases are removed from the denominator if there was an in-hospital mortality or if discharge anti-lipid treatment was contraindicated. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Process Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-20; N-0; A-0 Rationale: Although the current compliance rate is 98 percent, there is still regional variation where performance is low.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-21; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Strong clinical evidence indicates that a lipid-lowering regime is of benefit to patients post-CABG.
2. Scientific Acceptability of Measure Properties: C-20; P-1; 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: Specifications are well defined. Reliability and validity testing results are reported with rates of p=0.76 and 96.5% agreement respectively.
3. Usability: C-20; P-0; 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 Committee would like to see an increase in utilization of the measure and eventually become a standard practice of care.
4. Feasibility: C-21; P-0; 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 can be easily implemented.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient. The Steering Committee discussed the level of analysis and was sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement.

0130 Risk-adjusted deep sternal wound infection rate
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who, within 30 days postoperatively, develop deep sternal wound infection involving muscle, bone, and/or mediastinum requiring operative intervention. Numerator Statement: Number of patients who, within 30 days postoperatively, develop deep sternal wound infection involving muscle, bone, and/or mediastinum requiring operative intervention. Must have all of the following conditions: - Wound opened with excision of tissue (I&D) or re-exploration of mediastinum - Positive culture unless patient on antibiotics at time of culture or no culture obtained - Treatment with antibiotics beyond perioperative prophylaxis

0130 Risk-adjusted deep sternal wound infection rate
Denominator Statement: All patients undergoing isolated CABG Exclusions: N/A Adjustment/Stratification: case-mix adjustment/No stratification is required for this measure Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Outcome Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-19; N-0; A-1 Rationale: There is an opportunity for improvement due to the presence of variation within the performance gap.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. Developer Response: 1. Data on disparities are provided in the form. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-21; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: There is significant morbidity and mortality associated with this condition.
2. Scientific Acceptability of Measure Properties: C-20; P-1; 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 is important based on surgical wound infection as an important indicator of performance; the specifications are clearly and fully defined. The 30 day time interval for occurrence of sternal wound infection is appropriate.
3. Usability: C-19; P-2; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: STS reports it has worked to harmonize its definition of surgical site infection with CDC's definition and has done so except with respect to the time interval. At present, STS believes the 30 day time interval for the measure vs. the CDC 12 months outer limit is most appropriate.
4. Feasibility: C-19; P-2; 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 can be easily implemented.
Public and Member Comments General Comments included: • level of analysis should be reported at the individual surgeon level when sample sizes are sufficient; • support for and against risk adjustment; and • request for transparency of the validation methodology. The Steering Committee discussed the level of analysis and was sensitive to a number of issues that should be considered as organizations determine how measures should be structured and reported, including small sample sizes and potential for risk aversion. The Steering Committee stated it was appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. They noted that it was important for measures to take into account patient risk factors while ensuring that variations in care are not obscured by risk adjustment. They also clarified with the developer that individual clinician information can be generated at the group or hospital level for use in quality improvement. The Steering Committee agreed that transparency is important for all users' proper use and understanding of the measure and results of its use.

0218 Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to surgery to 24 hours after surgery end time
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to surgery to 24 hours after surgery end time Numerator Statement: Surgery patients who received appropriate VTE prophylaxis within 24 hours prior to Surgical Incision Time to 24 hours after Surgery End Time

0218 Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to surgery to 24 hours after surgery end time
Appropriate prophylaxis according to Surgery Type: Intracranial Neurosurgery Any of the following: • Intermittent pneumatic compression devices (IPC) with or without graduated compression stockings (GCS) • Low-dose unfractionated heparin (LDUH) Low molecular weight heparin (LMWH)2 • LDUH or LMWH2 combined with IPC or GCS General Surgery Any of the following: • Low-dose unfractionated heparin (LDUH) • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (Fondaparinux) • LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS General Surgery with a reason for not administering pharmacological prophylaxis Any of the following: • Graduated Compression stockings (GCS) • Intermittent pneumatic compression devices (IPC) Gynecologic Surgery Any of the following: • Low-dose unfractionated heparin (LDUH) • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (fondaparinux) • Intermittent pneumatic compression devices (IPC) • LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS Urologic Surgery Any of the following: • Low-dose unfractionated heparin (LDUH) • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (fondaparinux) • Intermittent pneumatic compression devices (IPC) • Graduated compression stockings (GCS) • LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS Elective Total Hip Replacement Any of the following started within 24 hours of surgery: • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (Fondaparinux) • Warfarin Elective Total Knee Replacement Any of the following: • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (Fondaparinux) • Warfarin • Intermittent pneumatic compression devices (IPC) • Venous foot pump (VFP) Hip Fracture Surgery Any of the following: • Low-dose unfractionated heparin (LDUH) • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (Fondaparinux) • Warfarin Elective Total Hip Replacement with a reason for not administering pharmacological prophylaxis Any of the following: • Intermittent pneumatic compression devices (IPC) • Venous foot pump (VFP)

0218 Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to surgery to 24 hours after surgery end time

Hip Fracture Surgery with a reason for not administering pharmacological prophylaxis
Any of the following:
• Graduated Compression Stockings (GCS)
• Intermittent pneumatic compression devices (IPC)
• Venous foot pump (VFP)
Denominator Statement: All selected surgery patients.
Exclusions: Data elements: clinical trial, laparoscope, perioperative death, preadmission warfarin, reason for not administering VTE prophylaxis
Adjustment/Stratification: no risk adjustment necessary/No stratification except by surgery type and those are Intracranial Neurosurgery Appendix A,Table 5.17
General Surgery Appendix A, Table 5.19
Gynecologic Surgery Appendix A, Table 5.20
Urologic Surgery Appendix A,Table 5.21
Elective Total Hip Replacement Appendix A,Table 5.22
Elective Total Knee Replacement Appendix A,Table 5.23
Hip Fracture Surgery Appendix A,Table 5.24
Level of Analysis: Facility/Agency; Program: QIO; can be measured at all levels
Type of Measure: Process
Data Source: Electronic clinical data; electronic health/medical record; paper medical record/flow-sheet. Vendor tools 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 Boulevard | Baltimore | Maryland | 21244

Steering Committee Recommendation for Endorsement: Y-17; N-2; A-1
Rationale: The large number of patients at risk and rate of death demonstrates the importance of continuing to strive for 100 percent compliance since VTE is one of the most common preventable causes of hospital death with about 1/3 of such occurrences being fatal. In discussion of potential harmonization of related measure 0371, the Committee agreed that the differences in populations, and guidelines for prophylaxis for those populations, warrant continuation of both measures as specified at present; however, members requested that the population of patients targeted by the measures be further reviewed for harmonization by the next maintenance review of the measures.

If applicable, Conditions/Questions for Developer:

1. 2a Measure Specifications: The length-of-stay indicated in the form is inconsistent. Length-of-stay is listed as three calendar days in some areas of the form and 24 hours in other areas.
2. 2a.3 Numerator Details: Provide a more detailed definition of what constitutes 'appropriate VTE prophylaxis' and attempt to reconcile ACCP guidelines with other evidence based guidelines for relevant populations (e.g. AAOS for orthopedic procedures).
3. 2a.10 Denominator Exclusion Details: Provide a more detailed definition of the laparoscopic exclusion or remove laparoscopic procedures from the denominator exclusions.

Developer Response:

1. The numerator time window (section 2a.2) is 24 hours prior to incision to 24 hours after surgery end time. Included in the measure submission is an exclusion statement "Patients with hospital length of stay less than or equal to 3 calendar days" that was not consistent with the exclusion statements in the paired measure, #217. All of the information about length of stay in #218 is correct. Measure #217 contains an incorrect statement about length of stay, but that measure is not being considered for re-endorsement, so it will not be corrected.
2. The submission form requests a link to the specifications and specifically recommends against the use of attachments. The Measure Information Form on the QualityNet website provides a very detailed table listing the procedure type and the appropriate VTE prophylaxis. That table is below. The recommendations in the measure are based on Level I evidence, per the ACCP Guidelines. The AAOS has this recommendation for prevention of symptomatic PE in patients undergoing hip/knee arthroplasty, with a Level III rating. *The use of aspirin as a monotherapy is the only recommendation that does not agree with the ACCP Guidelines.* The recommendation from AAOS is listed below:
   Recommendation 3.3
   Chemoprophylaxis of patients undergoing hip or knee replacement
   Recommendation 3.3.1
   Patients at standard risk of both PE and major bleeding should be considered for one of the chemoprophylactic agents evaluated in this guideline, including—in alphabetical order: Aspirin, low molecular-weight heparin (LMWH), synthetic

0218 Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to surgery to 24 hours after surgery end time
pentasaccharides, and warfarin. (Level III, Grade B [choice of prophylactic agent], Grade C [dosage and timing]) *Note: The grade of recommendation was reduced from B to C for dosage and timing because of the lack of consistent evidence in the literature defining a clearly superior regime.* 3. The exclusion for laparoscopic procedures is being removed for discharges beginning 1/1/2012. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate. The Steering Committee expressed that in the future they would like to see ACCP and AAOS work together to create appropriate and standardized guidelines.
1. Importance to Measure and Report: Y-20; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Performance in qtr 1, 2010 was 92.5%, up from 69.79% in 2005 with significant remaining opportunity for improvement. Studies have indicated that the number one cause of 30-day mortality in cancer patients after surgery is related to venous thromboembolism.
2. Scientific Acceptability of Measure Properties: C-6; P-13; 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 numerator is not harmonized with other evidence-based guidelines. Laparoscopic surgery is not well defined and should be removed from the list of exclusions as they are high risk patients.
3. Usability: C-9; P-11; 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 data sources include electronic clinical data, the electronic medical record where in use and paper medical record abstraction. It is in use in U.S. hospitals receiving Medicare reimbursement nationally.
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 measure can be easily implemented.
Public and Member Comments Comments included: • identify age group in the measure description and denominator statements • change "Factor Xa Inhibitor (Fondaparinux)" to "Factor Xa Inhibitor with VTE prophylaxis indication" to create more flexibility in the measure; • clarify "appropriate venous thromboembolism prophylaxis"; and • include otolaryngology-head and neck surgery procedures in measure specifications. The Steering Committee supported the change proposed by the measure developer with respect to integrating language into the specification to allow abstractors to select a pharmacologic agent that may be newly approved for a clinical indication; accepts the rationale for not including prophylaxis for head and neck surgery at this time; and has encouraged the developer to make the requested change to the measure descriptions and denominator.

Evaluation Summary—Candidate Consensus Standards Recommended for Reserve Status Endorsement

The summary of the comments and subsequent actions are highlighted in the evaluation summary table below.

Cardiac-CABG

0113 Participation in a systematic database for cardiac surgery
For More Information: Complete Measure Submission; Meeting/Call Proceedings

0113 Participation in a systematic database for cardiac surgery

Description: Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data.
Numerator Statement: Does the facility participate in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data? (y/n).
Denominator Statement: N/A
Exclusions: N/A
Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure.
Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities
Type of Measure: Structure/management
Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73
Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611

Steering Committee Recommendation for Endorsement: Reserve Status Y-20; N-0; A-1
Rationale: Participation in a registry allows benchmarking of data and leads to quality improvement. At present, 95 percent of eligible institutions participate in the registry; this number has remained at a high level over time. Additionally, the data drawn from the registry is used to report quality performance of the institutions for a number of process and outcome measures. Consideration of related measures 0456, Participation in a systematic national database for general thoracic surgery and 0493, Participation by a hospital, physican or other clinician in systematic clinical database registry that includes consensus endorsed quality measures was overtaken by the recommendation for reserve status.

If applicable, Conditions/Questions for Developer:

1. De.2 Measure Description: Please provide a more detailed description that addresses requirement for participation in the STS database/registry.
2. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities.
3. 2a.1 Numerator Statement: The statement does not indicate participation in the STS database is required.
4. 2a.3 Numerator Details: Are hospitals required to report 100% of cases? Please define what qualifies as participation in the registry.

Developer Response:

1. Participation in the STS Database is not required. Measure description will read: Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data
2. STS is not sure how to provide disparities data on this measure. If NQF is interested, STS can provide the number of STS Participants who report data on at least one patient in each subgroup (e.g., male, female, white, etc), but this information would look very similar to the data already provided in the measure form
3. Participation in the STS Database is not required. Numerator statement has been modified to read: Whether or not the facility participates in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data.
4. Numerator Details: Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data. For example, as described in the measure form, participation in the STS Adult Cardiac Surgery Database is initiated by the surgeons and/or hospital and is defined as quarterly submission of 100% of cases via an approved software system to the Duke Clinical Research Institute. STS's audit cross-checks submitted cases against hospital logs to assure all cases have been captured.

Steering Committee Follow-up:
The Steering Committee agreed that the response from the developer was adequate. The Steering Committee stated the revised description supported the importance of broad database registries, while appropriately avoiding endorsement of a specific vendor. The summary of data disparities was not provided, but it was suggested that the developer could provide additional information regarding characteristics of organizations that participate in the registry and whether the organizations that did not participate had any commonalities.

1. Importance to Measure and Report: Y-18; N-4
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: Participation in the database for benchmarking and quality improvement has been shown to improve outcomes and enhance patient safety. Although 90 pecent of centers already report, the Committee felt that participation should be closer to 100 percent.

2. Scientific Acceptability of Measure Properties: C-4; P-15; M-1; N-2
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)
Rationale: Participation in the registry was not defined. The Committee questioned if submitting one case fullfil the criteria requirement or is an organization required to submitt 100 percent of their cases in order to meet the requirement.

3. Usability: C-9; P-13; M-0; N-0

0113 Participation in a systematic database for cardiac surgery
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures) Rationale: The Committee questioned if the measure remains useful with the addition of other indicators that are dependent upon participation.
4. Feasibility: C-17; 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: All data elements are available electronically.
Public and Member Comments Comments included: • support for "reserve status"; and • question about whether the measure meets the NQF criterion of Importance to Measure and Report since it has a performance level of 95% for participating institutions and lack of convincing evidence of a strong link between participating in a clinical registry and quality of care. The Steering Committee noted that registries continue to provide a way to collect, benchmark, and report back to participants about performance to facilitate appreciation of levels of performance and potential for improvement. To address the situation where reliable, valid and important measures have high levels of performance with little variability, NQF offers "inactive endorsement with reserve status" to retain endorsement so that performance could be monitored in the future to ensure that performance does not decline. The Committee affirmed its recommendation that this measure be placed in reserve status.

Evaluation Summary—Candidate Consensus Standards Pending Final Recommendation for Endorsement

The summary of the comments and subsequent actions are highlighted in the evaluation summary tables below.

0134 Use of internal mammary artery (IMA) in coronary artery bypass graft (CABG)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients aged 18 years and older undergoing isolated coronary artery bypass graft (CABG) who received an internal mammary artery (IMA) graft. Numerator Statement: Number of patients undergoing isolated coronary artery bypass graft (CABG) who received an internal mammary artery (IMA) graft. Denominator Statement: All patients undergoing isolated CABG. Exclusions: Cases are removed from the denominator if the patient had a previous CABG prior to the current admission or if IMA was not used and one of the following reasons was provided: - Subclavian stenosis - Previous cardiac or thoracic surgery - Previous mediastinal radiation - Emergent or salvage procedure - No LAD disease Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities

0134 Use of internal mammary artery (IMA) in coronary artery bypass graft (CABG)
Type of Measure: Process Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Pending harmonization of 0134 and 0516 Rationale: This measure is tied to improved outcomes due to high patency rates of the IMA. The current compliance is 95 percent; however variation among programs exists; i.e., compliance rates as low as 80 percent. Final recommendation will be included in the phase II report.
If applicable, Conditions/Questions for Developer: 1. 1b.4 Summary of Data on Disparities by Population Group: Please provide data on disparities. 2. 2a.9 Denominator Exclusions: Please remove "the IMA is not a suitable conduit due to size or flow" from the exclusions. Developer Response: 1. Data on disparities are provided in the form. 2. STS staff agreed to remove the exclusion related to IMA suitability during the Steering Committee meeting. The form was modified to reflect this. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate. Additional Conditions/Questions for Developer: Harmonization: As agreed, please harmonize measures 0134 and 0516 by combining into a single measure, which can allow reporting at the provider or institution level.
1. Importance to Measure and Report: Y-20; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The literature points to disparities amongst women, with IMA used less often in women. The developer did not provide information or data on disparities related to performance on the measure.
2. Scientific Acceptability of Measure Properties: C-14; 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: The exclusion 'IMA not suitable,' can lead to the issue of gaming. This causes apprehension as to who determines if the IMA is not suitable. Currently, there is no criteria that classifies the IMA as suitable. The Committee requested this exclusion be removed.
3. Usability: C-20; 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 information obtained is meaningful and useful.
4. Feasibility: C-20; 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 information can be derived from electronic sources.
Public and Member Comments No comments were received on this measure.

0300 Cardiac surgery patients with controlled postoperative blood glucose
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Cardiac surgery patients with controlled blood glucose (≤180 mg/dl) in the timeframe of 18 to 24 hours after Anesthesia End Time. Numerator Statement: Cardiac surgery patients with controlled postoperative blood glucose (≤180 mg/dl) in the timeframe of 18 to 24 hours after Anesthesia End Time. Denominator Statement: Cardiac surgery patients with no evidence of prior infection. Include patients with an ICD-9-CM Principle Procedure code or ICD-9-CM Other Procedure codes of selected surgeries AND an ICD-9-CM for ICD-9-CM codes Principle Procedure code or ICD-9-CM Other Procedure codes of selected surgeries. 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) • Burn and transplant patients (as defined in Appendix A, Tables 5.14 and 5.15 for ICD-9-CM

0300 Cardiac surgery patients with controlled postoperative blood glucose
codes) • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest • Patients who discharged prior to 24 hours after Anesthesia End Time. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility; Population: national; Population: Regional; Type of Measure: Process Data Source: Electronic administrative data/claims; paper medical record/flow-sheet. Vendor tools 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 Boulevard | Baltimore | Maryland | 21244
Steering Committee Recommendation for Endorsement: Conditional on updated measure submission reflecting change in numerator to patients having cardiac surgery whose highest blood sugar between 18 and 24 hours after surgery is 180mg/dl or less and any other modifications necessitated by that change as well as response to additional question and condition. Final recommendation will be included in the phase II report. Rationale: Subsequent to developer changing the timeframe from 6 am due to variation in time of surgery, Committee indicated that a more comprehensive measure would involve monitoring a patient's blood glucose over the 18-24 hour period after surgery and allowing a 4 hour window to reduce high glucose levels to ≤ 180mg/dl.
If applicable, Conditions/Questions for Developer: 1. 2a.1 Numerator Statement: The timeframe should be within 24 hours after surgery instead of 6 am. 2. 2a.10 Denominator Exclusion Details: Provide a more detailed definition of perioperative death. Developer Response: 1. This recommendation was presented to the SCIP Infection TEP on April 6, 2011. The panel accepted changing the measure numerator to patients having cardiac surgery whose highest blood sugar, between 18 and 24 hours after surgery is 180mg/dl or less. 2. Patients that expire during the perioperative period are excluded from this measure, as they should not be held accountable for glucose values on POD 1 or 2. The data element has this definition: The patient expired during the timeframe from surgical incision through discharge from the post anesthesia care/recovery area. Additional abstraction instructions include: For patients discharged from surgery and admitted to the PACU: The end of the perioperative period occurs when the patient is discharged from the PACU. For patients discharged from surgery and admitted to locations other than the PACU (e.g., ICU): The perioperative period would end a maximum of six hours after arrival to the recovery area. If applicable, Conditions/Questions for Developer: 1. 2a.1 Numerator Statement: Suggested modification-If serum glucose is above 180 mg/dl, was it decreased within a specific amount of time. 2. 2b Reliability Testing and 2c Validity Testing: Advise what additional testing will need to be completed in light of the suggested modification. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer regarding POD was adequate.
1. Importance to Measure and Report: Y-16; N-5 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The goal of the measure, to improve patient's blood sugar, is important. Performance at the aggregate is 93.4 percent; disparity information requested to understand if there are subpopulation disparities.
2. Scientific Acceptability of Measure Properties: C-2; P-12; M-7; 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: There is a need for more flexibility in the timeframe to allow comparability since variation in patient times of departure from the operating room. Both the committee and developer have heard anecdotal reports that clinical staff is leaving patients on insulin drips to meet the criteria of the measure. Assuming this to be accurate, the timeframe change will address such an unintended consequence of the measure.
3. Usability: C-5; P-6; M-10; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)*

0300 Cardiac surgery patients with controlled postoperative blood glucose
Rationale: The Committee was unsure if this measure would provide additive value if the timeframe remains at 6 am.
4. Feasibility: C-5; P-9; M-7; 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 cannot be easily implemented using the current timeframe.
Public and Member Comments Comments included: • recommendation to change the time-frame for glucose control to 8-12 hours post op. The Steering Committee stated that the timeframe was modified based on a recommendation of the Committee to move from the arbitrary 6 am timeframe to an evidence based timeframe. This was accomplished by a CMS technical panel in consultation with STS where the evidence considered indicated that blood sugars should be controlled by 18 to 24 hours after surgery. Based on the evidence cited, the Steering Committee agreed with the revised timeframe in the measure submission.

Evaluation Summary—Candidate Consensus Standards Not Recommended for Endorsement

The summary of comments and subsequent actions are highlighted in the evaluation summary tables below.

Cardiac—CABG: Valve Replacement/ Repair

Venous Thromboembolism (VTE)

0124 Surgical volume-a. isolated coronary artery bypass graft (CABG) surgery, b. valve surgery, c. CABG+valve surgery
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Annual procedural volume of three surgeries: isolated CABG surgery, valve surgery, and valve+CABG surgery. Numerator Statement: a. number of patients undergoing isolated CABG surgery b. number of patients undergoing heart valve surgery c. number of patients undergoing CABG+valve surgery. Denominator Statement: N/A Exclusions: N/A Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians: Group; Facility/Agency; Population: National, regional/network, states, counties or cities Type of Measure: Structure/management Data Source: Registry data-STS Adult Cardiac Surgery Database, Version 2.73 Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: No Rationale: Did not pass Importance to Measure and Report
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:

0124 Surgical volume-a. isolated coronary artery bypass graft (CABG) surgery, b. valve surgery, c. CABG+valve surgery
1. Importance to Measure and Report: Y-4; N-17 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Volume alone is not an adequate quality marker. This measure should be paired with a companion outcome measure or it should be used to stratify volume but it should not be used as a stand-alone measure.
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:
Public and Member Comments Commenter's support endorsement of this measure on the basis that higher volume is associated with better outcomes for some procedures and that consumers find measures of volume meaningful and actionable. The Steering Committee reaffirmed their position that volume alone is insufficient to convey information about quality except in instances where there is clear evidence of a volume/outcome relationship. They determined that based on the literature there was insufficient data to support continued endorsement for this measure.

1479 Patient(s) 18 years of age and older on lipid-lowering medication at admission or within seven days of discharge of an isolated CABG procedure
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Patient(s) 18 years of age and older hospitalized for an isolated CABG procedure taking a lipid-lowering medication at admission or within seven days of discharge. Numerator Statement: Patient(s) who are taking a lipid-lowering medication at CABG admission date or within seven days of discharge. Denominator Statement: People hospitalized for an isolated CABG procedure. Exclusions: 1. Exclude patients who were readmitted to an acute or non-acute care facility for any diagnosis within seven days after discharge 2. Exclude the event if the patient died during the admission 3. Exclude the event if the patient did not have pharmacy benefits throughout the CABG event. 4. Exclude the event if the patient had a contraindication for anti-lipid therapy. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure.None Level of Analysis: Facility/ Agency, Health Plan, Integrated Delivery System, Multi-site/ corporate chain, Can be measured at all levels, Clinicians: Individual, Group, Population: states, counties or cities, Disease Management, Program: QIO . Type of Measure: Process Data Source: Electronic administrative data/claims; pharmacy data Measure Steward: Ingenix | 12125 Technology Drive | Eden Prairie | Minnesota | 55344
Steering Committee Recommendation for Endorsement: Y-1; N-19; A-1 Rationale: The goal of the measure is laudable as it begins to view the issue of patient compliance and medication reconciliation. However, the measure, as constructed, will not achieve the goal. The actual outcome of the measure is unclear. This measure has the potential for socioeconomic bias because patients without pharmacy benefits are excluded from the measure.
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-12; N-9 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: Strong clinical evidence indicates that a lipid-lowering regime is of benefit to patients post-CABG.

1479 Patient(s) 18 years of age and older on lipid-lowering medication at admission or within seven days of discharge of an isolated CABG procedure
2. Scientific Acceptability of Measure Properties: C-1; P-7; M-12; 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 inquired about the percentage of patients over the age of 65 years old that were captured in this measure. The issue of attribution and accountability was discussed. It was not clear if the hospital or physicians are being held accountable if patients elect not to fill their prescriptions. This measure does not allow organizations to accurately capture data on disparities because patients without a pharmacy benefit are excluded from the measure.
3. Usability: C-3; P-6; M-9; N-3 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The developer is unsure if the measure is being publicly reported.
4. Feasibility: C-5; P-8; 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: The developer was unable to provide information on costs to implement the measure. Data is abstracted using claims and chart abstraction data.
Public and Member Comments No comments were received on this measure.

0217 Surgery patients with recommended venous thromboembolism (VTE) prophylaxis ordered
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of surgery patients with recommended venous thromboembolism (VTE) prophylaxis ordered during admission. Numerator Statement: Surgery patients with recommended VTE prophylaxis ordered during admission. Denominator Statement: All selected surgery patients. Exclusions: Patients who are less than 18 years of age. Patients with procedures performed entirely by laparoscope. Patients whose total surgery time is less than or equal to 30 minutes. Patients who stayed less than or equal to 24 hours postoperatively. Burn patients (refer to Specifications Manual, National Healthcare Quality Measures, Appendix A, Table 5.14 for ICD-9-CM codes). Patients who are on warfarin prior to admission. Patients with contraindications to both mechanical and pharmacological prophylaxis. Patients whose ICD-9-CM Prinicpal Procedure occurred prior to the date of admission Adjustment/Stratification: no risk adjustment necessary/No stratification except by surgery type and those are: Intracranial neurosurgery, Appendix a, Table 5.17; General surgery, Appendix A, Table 5.19; Gynecologic Surgery, Appendix A, Table 5.20; Urologic Surgery, Appendix A, Table 5.21; Elective total hip, Appendix A, Table 5.22; Elective total knee, Appendix A, Table 5.23; Hip fracture surgery, Appendix A, Table 5.24 Level of Analysis: Facility/Agency; Population: national; Program: QIO; can be measured at all levels Type of Measure: Process Data Source: Electronic health/medical record; paper medical record/flow-sheet. Vendor tools 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 Boulevard | Baltimore | Maryland | 21244
Steering Committee Recommendation for Endorsement: Did not pass Importance to Measure and Report. The Committee determined that the measure is unnecessary in light of Measure 0218 that addresses VTE prophylaxis administration
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-2; N-17 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee determined this measure was not necessary since measure 0218 is more proximal to the outcome.
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:

0217 Surgery patients with recommended venous thromboembolism (VTE) prophylaxis ordered
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:
Public and Member Comments No comments were received on this measure.

Phase II Measures and Evaluation Follow-Up

The summary below displays follow-up items from 8 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 summaries of the February 28-March 1 meeting for the Phase I measures and the May 4-5 meeting for the original evaluation of the Phase II 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 and Vascular

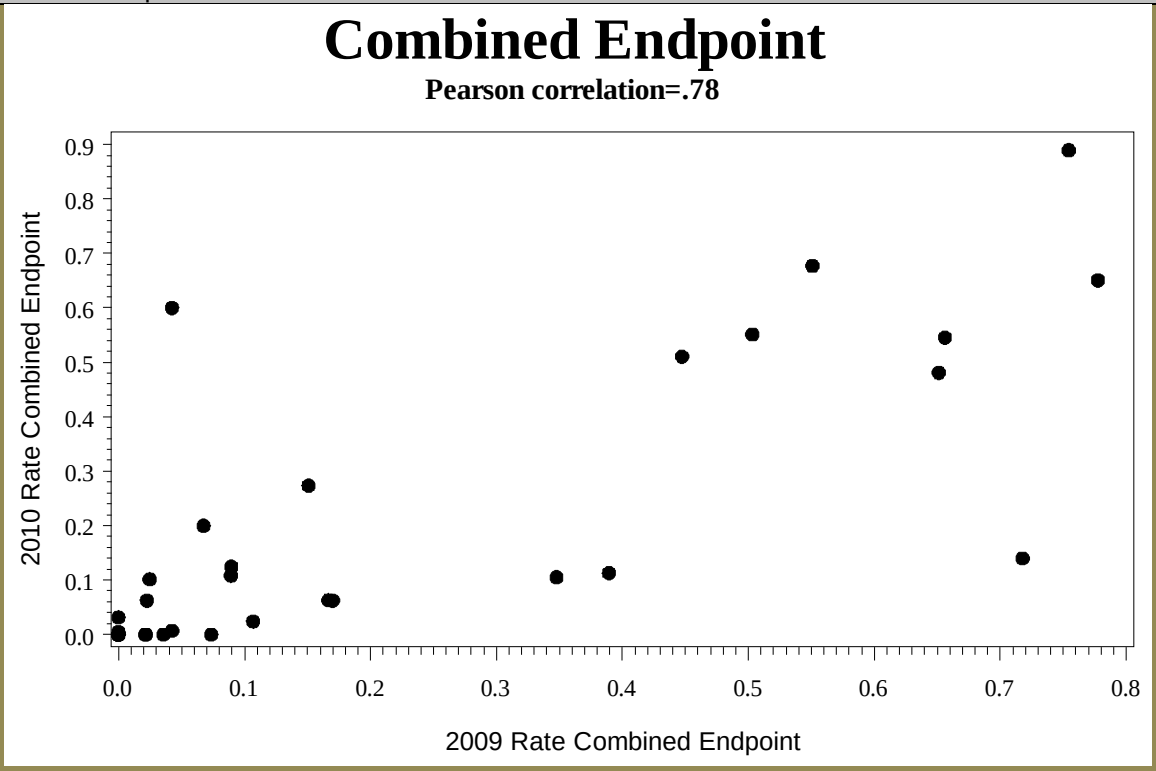
General, Ophthalmology, Orthopedics and Pediatrics

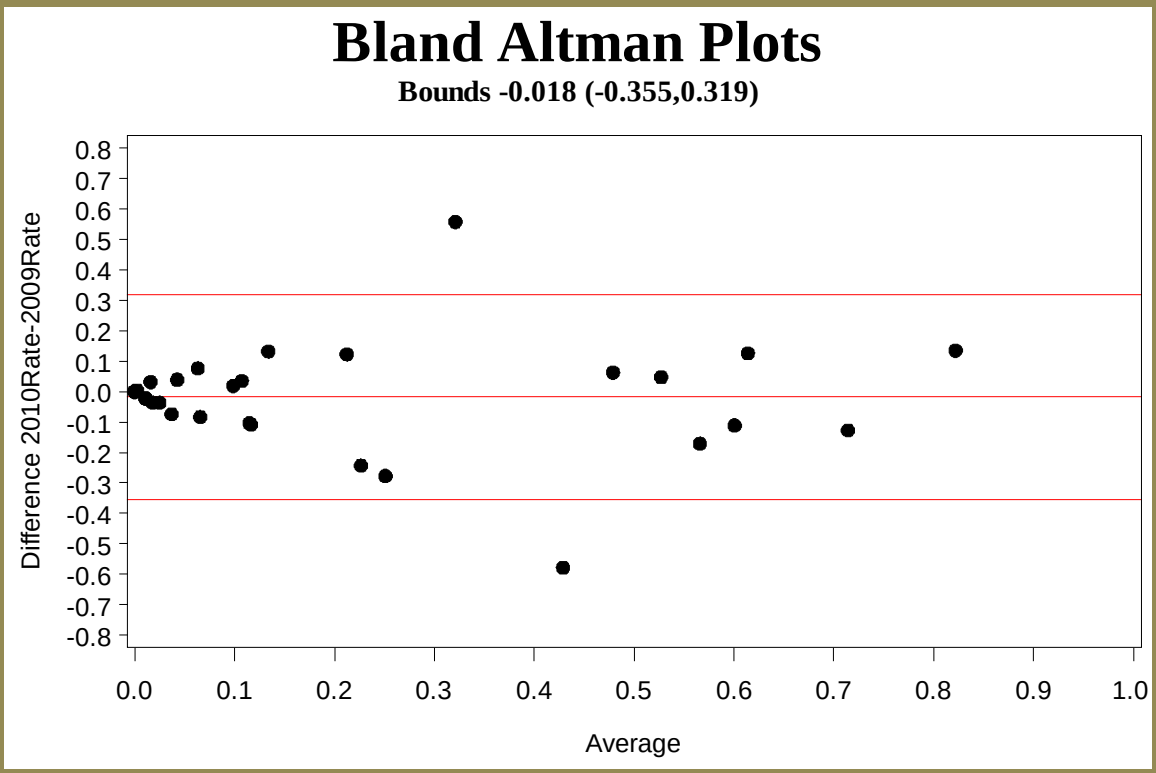
General, Prophylaxis and Wound Dehiscence

1531 Follow-up assessment of stroke or death after carotid revascularization
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Proportion of patients with carotid revascularization procedures who had follow-up performed for evaluation of death and neurologic assessment with an NIH Stroke Scale (by an examiner who is certified by the American Stroke Association) after the procedure. Numerator Statement: Patients with documentation of a follow-up assessment between 21 and 60 days after the date of carotid revascularization for both: 1. Neurologic status with an assessment using the NIH Stroke Scale (by an examiner who is certified by the American Stroke Association), AND 2. Vital Status (alive or expired) Denominator Statement: Patients with carotid revascularization (surgery or stent) procedures Exclusions: Patients with pre-procedure conditions of: 1.Acute evolving stroke, or 2.Carotid artery dissection Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/ Agency Type of Measure: Process Data Source: Registry data Measure Steward: American College of Cardiology Foundation (ACCF) | 2400 N Street NW | Washington | District Of Columbia, 20037
Steering Committee Recommendation for Endorsement: No Rationale: Two issues were key: 1) there is little evidence that this process measure is strongly linked to improvement in outcome, and

1531 Follow-up assessment of stroke or death after carotid revascularization
2) the likelihood of being able to retrieve the information and that of requirement that assessment be done by an American Stroke Association certified examiner. With respect to the latter, there was question about comparability of baseline and post procedure testing. Did not pass Importance to Measure and Report
If applicable, Conditions/Questions for Developer: 1. 2a.1 Numerator Statement: Reconsider the window of time within which assessment must be completed, including consideration of assessment prior to 21 days. 2. 2b Reliability Testing: Please provide reliability testing information addressing, with specifics, each required item. 3. 2c.3 Validity Testing Results: Please provide information regarding how the testing compares with the relevant evidence and guidelines. Developer Response: 1. Numerator statement – assessment prior to 21 days: The measure developers reconsidered the window of time for assessment and decided to maintain the current period for assessment between 21 and 60 days for several reasons. First, major contemporary trials used 30 day events as primary endpoints for outcomes, which included neurologic assessment to identify stroke. Based on these trial endpoints, the developers felt a follow-up timeframe <21 days would miss the identification of new neurological events that trigger the need for further evaluation from a neurologist. Second, a structured timeframe, consistent with contemporary trials, provides a more accurate comparison of rates of assessment and outcomes between facilities providing carotid revascularization procedures. Finally, testing of the measure indicated only 2% of patients submitted with follow-up records had an assessment timeframe of <21 days. 2. Reliability Testing: 2b. Reliability testing: 2b.1 Data/sample *(description of data/sample and size)*: Data were compared for 33 hospitals with 30 or more procedures for a 12 month period from January 2009 to December 2009 and from January 2010 and January 2010. 2b.2 Analytic Method *(type of reliability & rationale, method for testing)*: Results were compared for two proximate time periods: January 2009 to December 2009 and from January 2010 to December 2010. Hospitals were excluded if they did not have data for both time periods, or if they did not perform 30 or more procedures during this time period. A simple scatter plot to assess correlation of follow-up rates for these hospitals for the 2 time periods was developed, as well as a Bland-Altman plot to show the range of hospital change in performance for these two time periods. 2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*: See below. The correlation coefficient observed was 0.78. The average change in performance was -0.018, with a 95% confidence interval of 0.347 to 0.311, showing very good reliability of data over time.

1531 Follow-up assessment of stroke or death after carotid revascularization

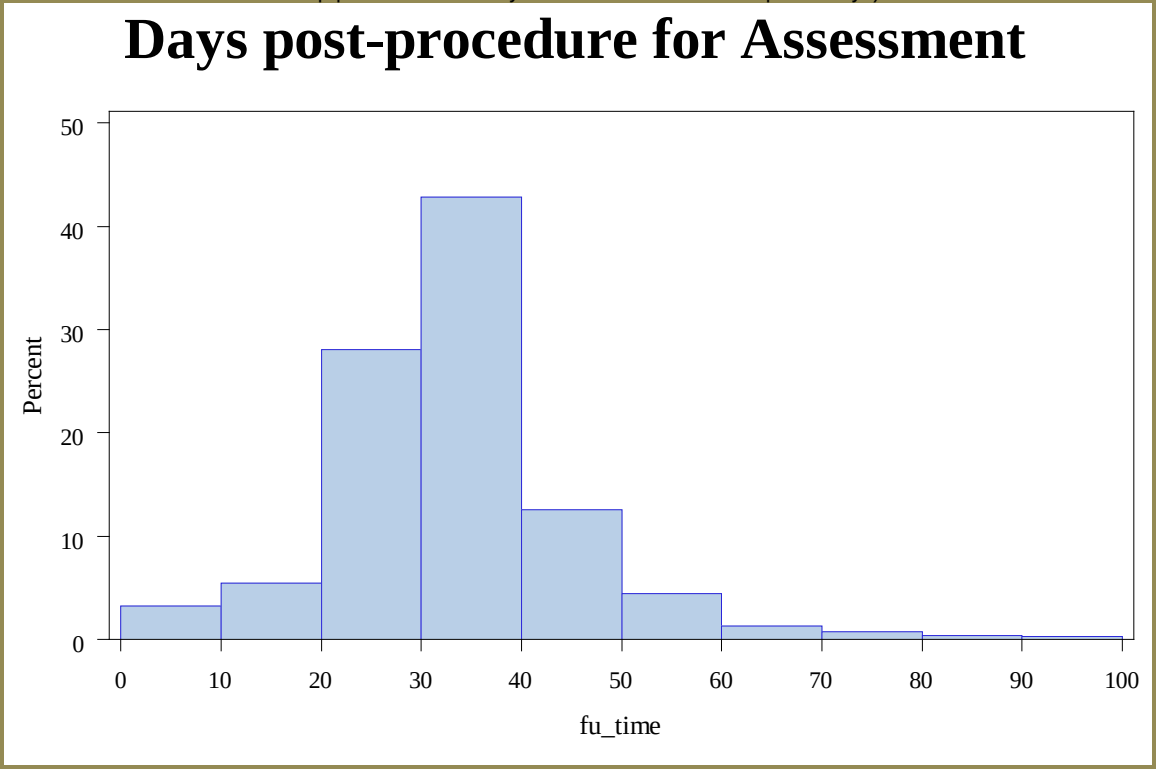




3. Validity Testing Results: Major contemporary trials used 30 day assessment of primary endpoints for outcomes, which included neurologic assessment to identify stroke. Measure testing demonstrated three things: 1) the CARE Registry

1531 Follow-up assessment of stroke or death after carotid revascularization

dataset has the data elements to accurately measure and report this process of care; 2) a gap in care exists with regard to assessment and reporting around the 30 day outcome endpoint consistent with published literature; and 3) among the patients who had follow-up, nearly all of them had follow-up during the timeframe of 21-60 days (see below diagram - 2.2% had follow-up performed <21 days and 0.76% had follow-up >60 days).



Steering Committee Follow-up:
The Steering Committee recognized the importance of having a standardized form of assessment for stroke or death after carotid revascularization. They continued to express concern about the feasibility of the data collection and the independent assessment. Hospitals would be responsible for collecting the data. It was explained that the assessment could take place at a post-operative visit and the independent examiner could be a variety of medical personnel certified through an online course. The Steering Committee also discussed whether the measure had a link to an improvement in outcomes. Though all concerns were not alleviated, they concluded that such a measure could encourage a standardized neurological assessment to be conducted, which could indicate whether an improvement needed to take place.

1. Importance to Measure and Report: Y-7; N-13
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The Steering Committee recognized the importance of having a standardized way of conducting a neurologic assessment of stroke or death after carotid revascularization but expressed concern about whether there is a direct link to improvement in outcomes.

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:

0339 Pediatric heart surgery mortality (PDI 6)

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

Description: Percentage of cases undergoing surgery for congenital heart disease with an in-hospital death.
Numerator Statement: Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator with a code of pediatric heart surgery with ICD-9-CM diagnosis of congenital heart disease in any field.
Denominator Statement: Discharges under age 18 with ICD-9-CM procedure codes for congenital heart disease (1P) in any field or non-specific heart surgery (2P) in any field with ICD-9-CM diagnosis of congenital heart disease (2D) in any field.
Exclusions: Exclude cases:
• MDC 14 (pregnancy, childbirth and pueperium)
• with transcatheter interventions (either 3AP, 3BP, 3CP, 3DP, 3EP with 3D, or 3FP) as single cardiac procedures, performed without bypass (5P) but with catheterization (6P)
• with septal defects (4P) as single cardiac procedures without bypass (5P)
• with diagnosis of ASD or VSD (5D) with PDA as the only cardiac procedure
• heart transplant (7P)
• premature infants (4D) with PDA closure (3D and 3EP) as only cardiac procedure;
• age less than or equal to 30 days with PDA closure as only cardiac procedure
• 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)
• neonates with birth weight less than 500 grams (Birth Weight Category 1)
Adjustment/Stratification: risk adjustment method widely or commercially available PQI: The predicted value for each case is computed using a logistic regression model and covariates for gender and age in years (in 5-year age groups). 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., county, 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
The model includes additional covariates for RACHS-1 risk categories.
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/The user has the option to stratify by Gender, birthweight, age in days, age in years, 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: Measuring pediatric heart surgery mortality is important and the measure is valid and meets criteria RACHS is supported in the literature.

If applicable, Conditions/Questions for Developer:
1. This measure and Measure 0340 should continue to be reported as a pair.

Developer Response:
1. AHRQ agrees to continue to note the Pediatric heart surgery mortality and volume (339 and 340 respectively) are to be reported as a paired measure in related AHRQ QI documents.

Steering Committee Follow-up:
At the Steering Committee's request, the developer explained that they were working to combine measures *0339: Pediatric heart surgery mortality (PDI 6) (risk adjusted)* and *PCS-021-09: Standardized mortality ratio for congenital heart surgery, risk adjustment for congenital heart surgery (RACHS-1) adjusted*) for submission by August 15, 2011.

1. Importance to Measure and Report: Y-18; N-1
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The measure was considered important and the performance gap suggests room for improvement.
The Committee requested timely updated citations in the future.

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 was considered scientifically acceptable.

0339 Pediatric heart surgery mortality (PDI 6)
3. Usability: C-15; 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: This measure has been in wide use over a number of years and is considered usable.
4. Feasibility: C-15; P-3; 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: This measure uses claims data thus was considered feasible.

0340 Pediatric heart surgery volume (PDI 7)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Number of discharges with procedure for pediatric heart surgery Numerator Statement: Discharges under age 18 with ICD-9-CM procedure codes for either congenital heart disease (1P) in any field or non-specific heart surgery (2P) with ICD-9-CM diagnosis of congenital heart disease (2D) in any field. Denominator Statement: This measure does not have a denominator due to the fact it is a volume measure. Exclusions: Not applicable. This measure does not have a denominator due to the fact it is a volume measure. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. 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 Y-15; N-4; A-0 Rationale: The measure was considered important, valid and meets criteria.
If applicable, Conditions/Questions for Developer: 1. This measure and Measure 0339 should continue to be reported as a pair. Developer Response: 1. AHRQ agrees to continue to note the Pediatric heart surgery mortality and volume (339 and 340 respectively) are to be reported as a paired measure in related AHRQ QI documents. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-14; N-5 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee noted the performance gap, which showed that the risk-adjusted mortality is higher at hospitals with fewer than 100 cases per year. The Committee requested timely updated citations in the future.
2. Scientific Acceptability of Measure Properties: C-10; P-8; 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: This reporting of pediatric heart surgery volume alone may not be valid since it occurs in small numbers. Additionally, pediatric heart surgery has become regionalized and is conducted at relatively few institutions.
3. Usability: C-10; P-8; M-1; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: This measure has been in wide use over a number of years and is considered 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: This measure uses claims data thus was considered feasible.

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).

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

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.
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

0352 Failure to rescue in-hospital mortality (risk adjusted)
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: The Steering Committee agreed that the response from the developer was adequate.
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. 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

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

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.
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:

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

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

0353 Failure to rescue 30-day mortality (risk adjusted)
(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 measures)* Rationale: The measure uses administrative data and has been shown to be usable; 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:

0351 Death among surgical inpatients with serious, treatable complications (PSI 4)
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: 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.
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: Denominator (Eligible Population): All patients aged 18 years and older who had cataract surgery •CPT Procedure Codes (with or without modifiers): 66840, 66850, 66852, 66920, 66930, 66940, 66982, 66983, 66984 Adjustment/Stratification: no risk adjustment necessary/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:

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

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

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

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

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

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
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 Denominator Exclusions: Documentation of medical reason for not improving visual function within 90 days of cataract surgery

- Append modifier to CPT Category II Code: -1P

Documentation of patient reason for not improving visual function within 90 days of cataract surgery

- Append modifier to CPT Category II Code: -2P

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 one noting that the additional information that is provided from the patient perspective about visual function makes this an important and 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) Injdicate 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?

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

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.
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: 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.

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.

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

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 indicated opportunity for improvement.
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

0125 Timing of antibiotic prophylaxis for cardiac surgery patients
measures may not have the effect on SSI rates that bundles have. Members also stated that antibiotic stewardship should be addressed. 2. The Committee agreed that the developer provided an adequate response to its question.
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.
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: The measure uses registry data and was considered feasible.

NQF MEMBER AND PUBLIC COMMENT

No comments were made.

NEXT STEPS

The Committee and measure developers' responses, for the Phase I review of comments, will be included in the final evaluation summaries in the draft report for the NQF Member Voting period. NQF Member Voting will open on August 16 and members will have 15 days to vote.

The next Steering Committee conference call will take place on Wednesday, August 3, 2011 to continue discussing six Phase II measures that required follow-up and to begin to review related and competing measures. Additionally, at the request of the developer, measure *0515: Ambulatory surgery patients with appropriate method of hair removal* will be revisited by the Steering Committee.