NATIONAL QUALITY FORUM

CONFERENCE CALL OF THE SURGERY ENDORSEMENT MAINTENANCE 2010 STEERING COMMITTEE

November 7, 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; Curtis Collins, PharmD, MS, BCPS AQ-ID, University of Michigan Health System; Richard Dutton, MD, MBA, Anesthesia Quality Institute; Paula Graling, DNP, RN, CNS, CNOR, INOVA Fairfax Hospital; Vivienne Halpern, MD, FACS, Carl T Hayden VA Medical Center; Ruth Kleinpell, PhD, RN, FAAN, Rush University Medical Center; Terry Rogers, MD, The Foundation for Health Care Quality; Allan Siperstein, MD, Cleveland Clinic; Renae Stafford, MD, MPH, FACS, University of North Carolina-Chapel Hill; Connie Steed, MSN, RN, CIC, Greenville Hospital System; Carol Wilhoit, MD, MS, Blue Cross Blue Shield of Illinois.

NQF Staff Present: Alexis Forman, MPH, Senior Project Manager; Melinda Murphy, RN, MS, NE-BC, Senior Director; Karen Pace, PhD, RN, Senior Director; Jessica Weber, MPH, Project Analyst.

Measure Developers Present: Lindsey Adams, Society for Vascular Surgeons; Kristie Baus, Centers for Medicare & Medicaid Services; John Bott, Agency for Healthcare Research and Quality; Greg Bridges, Oklahoma Foundation for Medical Quality; Carla Chronister, Oklahoma Foundation for Medical Quality; Elizabeth Drye, Yale University; Jeffrey Geppert, Agency for Healthcare Research and Quality; Laura Grosso, Yale University; Lein Han, Centers for Medicare & Medicaid Services; Bob Jasak, American College of Surgeons; Wanda Johnson, Oklahoma Foundation for Medical Quality; Tim Kresowik, Society of Vascular Surgeons; Kelsey Kurth, American Academy of Ophthalmology; 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; David Shahian, The Society of Thoracic Surgeons; Jill Shelly, American College of Surgeons; Cynthia Shewan, The Society of Thoracic Surgeons; Lara Slattery, American College of Cardiology; Donna Slosburg, ASC Quality Collaboration; Susan White, ASC Quality Collaboration; Kim Wood, Surgical Care Affiliates.

Others Present: Frederick Masoudi, University of Colorado; Karen Nakano, Centers for Medicare & Medicaid Services; Lesli Ott, Yale University; Lisa Suter, Yale University; Sophia Tsakraklides, Yale University; Smitha Vellanky, Yale University; Carla Zema, St. Vincent College.

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 II NQF Public and Member Comment period;
- determine the course of action for the submitted comments;
- continue reviewing the remaining Phase II measures;
- determine if any of the AAA measures are related or competing;
- review harmonization plans for multiple prophylactic antibiotic measures; and
- review measure 1741: Consumer assessment of healthcare providers and systems (CAHPS)™ surgical care survey.

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 October 26, 2011. A total of 135 comments from 29 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.

Comments on Measures Recommended for Endorsement

Level of Assessment

A number of comments advocated the application of area or facility level measures be applied at other levels, most particularly the clinician level (*0273: Perforated appendix admission rate; 0284: Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period; 0339: RACHS-1 pediatric heart surgery mortality; 0340: Pediatric heart surgery volume; 0352: Failure to rescue in-hospital mortality (risk-adjusted); 0353: Failure to rescue 30 day mortality; 1550: Hospital-level risk-standardized complication rate following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)*).

The Committee revisited the expressed concerns as it had with similar concerns during Phase I; however, the Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed.

Topped Out Measures

A number of commenters indicated one or more measures were topped out and offered recommendations for handling those measures (*0117: Beta blockade at discharge; 0134: Use of internal mammary artery (IMA) in coronary artery bypass graft (CABG); 0301: Surgery patients with appropriate hair removal; 0515: Ambulatory surgery patients with method of hair removal*).

With respect to 0117, commenters suggested that it be used as a composite with 0126 and 0127. The Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed.

With respect to 0134, it was suggested the measure retain endorsement and be placed in reserve status. The Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed.

With respect to 0301 and 0515, suggestions were made to remove razors to ensure compliance and render these measures unnecessary. The Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed.

Measures for Ambulatory Surgery Centers
Many comments were received in support of endorsing measures for use in ASCs. A number included recommendations that the measures be subjected to ongoing review and changes made to specifications as needed to ensure the measures remain current with the evidence base and, where appropriate, that they recognize subpopulations and risk factors and refine time frames for measurement.

The Steering Committee supports the recommendations and noted that as part of their commitment to maintain measures, developers are expected to engage in ongoing refinement of the measures based on the evidence and identification and reporting of disparities such as differences in performance among subpopulations. However, the Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed.

Hip and knee arthoplasty
During the comment period a number of comments specific to two measures *(1550: Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA) and 1551: Hospital-level 30-day all-cause risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)).* In response to comments, the specifications were revised.

The Steering Committee has reviewed the revised specifications and determined that the measures with revised specifications can be advanced for voting without a further period of review or testing.

Comments on Measures Not Recommended for Endorsement

Encouragement to recommend measures 0364, 0367, 0368, 1531 and 1548
Comments were received about five of the measures that were not recommended for endorsement (*0364: Incidental appendectomy in the elderly; 0367 and 368: Post-operative wound dehiscence, pediatric and adult; 1531; Follow up assessment of stroke or death after carotid revascularization; 1548: Surveillance after endovascular abdominal aortic aneurysm repair*).

0364: Incidental appendectomy in the elderly. Commenters noted that this measure points to misuse and contributes to cost of care.
0367 and 368: Post-operative wound dehiscence, pediatric and adult. Commenters noted that these measures indicate less than optimal care, have negative patient impact and increase costs of care.

The Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed. Measures 0364, 0367 and 0368 did not pass the NQF threshold criterion of importance. Of note, 0367 and 0368 were revisited by Steering Committee, with the evidence initially presented, to address developer concern regarding interpretation of the data.

1531: Follow up assessment of stroke or death after carotid revascularization; 1548: Surveillance after endovascular abdominal aortic aneurysm repair.

The Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed. The decisions about the measures do not minimize the importance of assessment and surveillance. The Steering Committee strongly supports the concept underlying the measures and encourages the developers to continue effort to refine the measures and bring them to NQF for endorsement.

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 and Vascular

General, Ophthalmology, Orthopedics and Pediatrics

General, Prophylaxis and Wound Dehiscence

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, Clinician: Individual, Clinician: Team, 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-2 Rationale: This measure is tied to improved outcomes due to high patency rates of the IMA. The current compliance mean is 95 percent; however variation among programs exists; i.e., compliance rates as low as 80 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.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

0134 Use of internal mammary artery (IMA) in coronary artery bypass graft (CABG)
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, 0134 and 0516 should be harmonized 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, since currently, there are no criteria that classifies the IMA as suitable. The Committee requested that 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 It was suggested the measure retain endorsement and be placed in reserve status. The Committee concluded that no additional information was provided to revise evaluation of the measures and recommendations were not changed.

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 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

0300 Cardiac surgery patients with controlled postoperative blood glucose

Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Boulevard | Baltimore | Maryland | 21244

Steering Committee Recommendation for Endorsement: Y-20; N-0; A-2

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. This suggestion led to the developers revising the measure to include the timeframe of 18 to 24 hours.

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 to understand if there are subpopulations disparities was requested and obtained.

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 staffs are 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)

Rationale: The Committee was unsure if this measure would provide additive value if the timeframe remained 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. The timeframe has been changed.

Public and Member Comments

- Do not support glucose control as a performance measure at this time;
- Prefer glucose range be included in the measure to avoid hypo-or hyper-glycemia; and
- Concerned with how measure considers hospital non-compliance

The measure developer indicated that they will discuss including a glucose range (to avoid hypo- or hyper- glycemia) in the measure with their Technical Expert Panel. The Committee will review the response from CMS' Technical Expert Panel and discuss it with CMS to determine a future appropriate action.

0300 Cardiac surgery patients with controlled postoperative blood glucose
The developer indicated that the measure does not require that all blood sugars between 18-24 hours after the end of cardiac surgery be below 180 mg/dL.

0127 Preoperative beta blockade
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing isolated CABG who received beta blockers within 24 hours preceding surgery. Numerator Statement: Number of patients undergoing isolated CABG who received beta blockers within 24 hours preceding surgery Denominator Statement: All patients undergoing isolated CABG Exclusions: Cases are removed from the denominator if preoperative beta blocker was contraindicated. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Clinicians: Group, Clinicians: Individual, Facility/ Agency, Population: Community, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States Type of Measure: Process Data Source: Registry data Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-23; N-0; A-1 Rationale: There was strong evidence to support this measure and it demonstrated a clear performance gap.
If applicable, Conditions/Questions for Developer: Developer Response: Steering Committee Follow-Up: This was one of four related measures considered for potential harmonization. The four included: e*ndorsed measure 0235*: Pre-op beta blocker in patient with isolated CABG; m*aintenance measure 0127*: Pre-operative beta blockade; e*ndorsed measure 0236*: Pre-op beta blocker in patient with isolated CABG; and m*aintenance measure 0284*: Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period. Discussion of the four measures is included here. The Steering Committee stated that measure 0284 is unique and harmonization will not be pursued at this time since it applies beyond CABG to other surgical patients receiving beta blocker therapy prior to admission. The Steering Committee identified measures 0235 and 0127 as similar and should be combined into a single measure. The measure developer confirmed that the measures are similar with the exception of the level of measurement and indicated that they would combine them into a single measure from which information at the individual or facility level can be drawn. The developer also noted that measures 0235 and 0236 are identical in their specifications and are two components of a Physician Quality Reporting System (PQRS) measure. The Steering Committee stated that they considered the measures derived from registry data (measures 0235 and 0127) and administrative claims data (measure 0236) to be similar but not competing since the two data sources result in capture of information about different populations; both measures are useful and valid. On the September 13 conference call, the measure developer confirmed that measures 0127 and 0235 had been combined into this single measure that includes a level of analysis for both facilities and individual clinicians.
1. Importance to Measure and Report: Y-21, N-0; A-0 (1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: There was strong evidence to support this measure and it demonstrated a performance gap of 86.6 percent.
2. Scientific Acceptability of Measure Properties: C-16; P-5; M-0; N-0 (2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities) Rationale: Questions regarding number of patients excluded by the measure and concerns over contraindications to preoperative beta blockers were satisfactorily addressed by additional information from the developer. Evidence in support of the measure demonstrates its value.
3. Usability: C-17; P-4; M-0; N-0 (3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures) Rationale: The measure as specified is usable; there may be opportunities for harmonization with other beta blocker measures. At the request of the Committee, the developer combined measures 0127 and 0235 into a single measure.
4. Feasibility: C-17; P-4; M-0; N-0 (4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)

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Rationale: The measure is meaningful for public reporting and quality improvement; though, the cost of data extraction is of some concern.
Public and Member Comments Commenters suggested that it be used as a composite with 0126. The developer stated that the denominator of measure 0127 differs from the denominator of 0126. The Committee did not change its recommendation but noted that endorsement as an individual measure does not preclude use in a composite.

0284 Surgery patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients on beta blocker therapy prior to admission who received a beta blocker during the perioperative period. To be in the denominator, the patient must be on a beta-blocker prior to arrival. The case is excluded if the patient is not on a beta-blocker prior to arrival, as described below in 2a4. Numerator Statement: Surgery patients on beta blocker therapy prior to admission who receive a beta blocker during the perioperative period Denominator Statement: All surgery patients on beta blocker therapy prior to arrival Data Element Data Collection Question: Is there documentation that the patient was on a daily beta-blocker therapy prior to arrival? Yes/No Notes for Abstraction: • If there is documentation that the beta-blocker was taken daily at "home" or is a "current" medication, select "Yes". • If a beta-blocker is listed as a home medication without designation of how often or when it is taken, select "Yes". • If there is documentation that the beta-blocker is a home/current medication and additional documentation indicates the beta-blocker was not taken daily, e.g., the medication reconciliation form lists a beta-blocker as a home/current medication, but documentation in the nurses notes state "patient denies taking beta-blocker every day", select "No". • If there is documentation that the beta-blocker is on a schedule other than daily, select "No". • If there is documentation that the beta-blocker was given on a "prn" basis for cardiac or non-cardiac reasons, select "No". Exclusions: • Patients less than 18 years of age • Patients who have a Length of Stay greater than 120 days • Patients enrolled in clinical trials • Patients whose ICD-9-CM principal procedure occurred prior to the date of admission • Patients who expired during the perioperative period • Pregnant patients taking a beta-blocker prior to arrival • Patients with a documented Reason for Not Administering Beta-Blocker-Perioperative • Patients with Ventricular Assist Devices or Heart Transplantation Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/ Agency, Population: National, Population: Regional Type of Measure: Process Data Source: Electronic administrative data/ claims, Paper medical record/ flow-sheet Vendor tools (electronic) or CART. CART is available for download free at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093 Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Blvd, Mail Stop S3-02-01 | Baltimore | Maryland | 21244
Steering Committee Recommendation for Endorsement: Y-20; N-0; A-1 Rationale: The measure is meaningful for public reporting and quality improvement.
If applicable, Conditions/Questions for Developer: 1. 2a.4 Denominator Statement: Include definition of 'prior to arrival' and clarify the expected beta blocker dosing during the perioperative period (e.g., beyond homeopathic dose) – should be done to a specific parameter; i.e., hear rate or blood pressure. 2. 2a.9 Denominator Exclusions: Exclusion for laparoscopy verbally reported as removed effective January 1, 2012. Please confirm. 3. 2a.9 Denominator Exclusions: Consider exclusions for patients on beta blockers for non-cardiac reasons. Developer Response: 1. To be in the measure denominator, the patient must be on a beta-blocker prior to arrival. The data collection question and relevant notes for abstraction for the data element Beta-Blocker Current Medication are listed below. The case is excluded if the answer to this data element is "no." We do NOT use specific parameters for dosing because this measure was designed to

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ensure that patients on beta-blocker therapy at home have continued therapy. It is not evaluating whether the dose is therapeutic. There is simply no way to define a "homeopathic dose" for the purposes of data collection.

Suggested Data Collection Question: Is there documentation that the patient was on a daily beta-blocker therapy prior to arrival? Yes/No

Notes for Abstraction:

• If there is documentation that the beta-blocker was taken daily at "home" or is a "current" medication, select "Yes".
• If a beta-blocker is listed as a home medication without designation of how often or when it is taken, select "Yes".
• If there is documentation that the beta-blocker is a home/current medication and additional documentation indicates the beta-blocker was not taken daily, e.g., the medication reconciliation form lists a beta-blocker as a home/current medication, but documentation in the nurses notes state "patient denies taking beta-blocker every day", select "No".
• If there is documentation that the beta-blocker is on a schedule other than daily, select "No".
• If there is documentation that the beta-blocker was given on a "prn" basis for cardiac or non-cardiac reasons, select "No".

2. The data element Laparoscope has been removed from all SCIP measures for January 1, 2012 discharges. Major surgeries performed laparoscopically may be included if their ICD-9 Principal Procedure Code is included in the denominator (Table 5.10).
   Those exclusions are accounted for in the Notes for Abstraction for the data element Beta-Blocker Current Medication. See above. The abstractor is instructed to answer "no" to this data element which excludes them from the measure.

Steering Committee Follow-up:

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

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

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

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

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4. Feasibility: C-12; P-9; M-0; N-0 (4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented) Rationale: The required data is readily available; the Committee questioned whether the measure would continue to rely on paper records. It is not included in the list for electronic health records (EHR) at present; however, the developer was encouraged to consider capturing titration to heart rate when it does move to EHR. They were also requested that the bradycardia exclusion be included.
Public and Member Comment • Should apply at the clinician level of analysis; and • Multiple data sources The developer indicated that the measure could be applied at the clinician level but was developed specifically for the facility level. The Committee is sensitive to a number of issues that should be considered as organizations determine at what level of analysis measures should be structured and reported. The Committee believes it is appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues. Based on the developer response, the developer has been asked to provide information regarding what changes and testing are needed to include clinicians in the level of analysis and if none, to do so going forward.

0117 Beta blockade 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 beta blockers Numerator Statement: Number of patients undergoing isolated CABG who were discharged on beta blockers Denominator Statement: All patients undergoing isolated CABG Exclusions: Cases are removed from the denominator if there was an in-hospital mortality or if discharge beta blocker was contraindicated. 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: Y-21; N-0; A-1 Rationale: The measure is important and shows a performance gap.
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-21; N-0 (1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: The measure is important and shows a performance gap with a mean of 95.1 percent and a median of 96.9 percent compliance; however, performance drops off sharply indicating there is room for continued performance improvement.
2. Scientific Acceptability of Measure Properties: C-18; P-3; M-0; NA-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: Initial concern about patients with contraindications who were removed from the numerator and denominator and the clarity of the time window were resolved in conversation with the developer. There is a clear relationship of this measure to patient outcomes. The rationale for using eligibility and exclusion criteria in lieu of a risk model that would be difficult to construct was accepted.
3. Usability: C-17; P-4; M-0; NA-0 (3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures) Rationale: The measure was considered usable; no concerns were expressed.
4. Feasibility: C-18; P-3; M-0; NA-0 (4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented) Rationale: While there were questions about potential gaming and costs associated with data abstraction, these issues are relatively common across many measures and were not believed to compromise the feasibility of this measure.
Public and Member Comment

0117 Beta blockade at discharge
• Considers the measure to be topped out due to the mean value being at 95.1 percent; and • Should be combined with measure 0126 and 0127. Although the mean value is 95.1 percent, the distribution of values indicates there is opportunity for improvement. The denominator of measures 0117 and 0127 differ from measure 0126. In addition, two of the measures are included in the NQF-endorsed® measure 0696 The STS CABG Composite Score. Endorsement as a standalone measure does not preclude use in a composite.

0273 Perforated appendix admission rate (PQI 2)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of admissions for appendicitis within county with perforated appendix. Numerator Statement: All discharges with ICD-9-CM diagnosis code for perforations or abscesses of appendix in any field among cases meeting the inclusion rules for the denominator. Denominator Statement: All non-maternal discharges of age 18 years and older in Metro Area1 or county with diagnosis code for appendicitis in any field. Exclusions: Not applicable. Adjustment/Stratification: risk adjustment method widely or commercially available 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/Observed rates may be stratified by gender, age (5-year age groups), race/ ethnicity. Level of Analysis: Population: Counties or cities, Population: States 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-21; N-0; A-1 Rationale: This is a population-based measure that is scientifically valid and easy to implement with a significant performance gap. Adverse outcomes such as longer length of stay with the resulting increased resource utilization are associated with an appendix perforation.
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-19; N-2 (1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: The Committee indicated that the measure demonstrated that adverse outcomes are associated with an appendix perforation and disparity data suggested a gap in care. The measure is useful as a population prevention indicator.
2. Scientific Acceptability of Measure Properties: C-16; P-5; M-0; N-0 (2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities) Rationale: This measure has scientific validity.
3. Usability: C-18; P-2; 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 is useful in looking at clinical management and is in use.
4. Feasibility: C-18; P-3; M-0; N-0 (4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented) Rationale: This measure uses claims data and is feasible to collect.
Public and Member Comment • Better performing center may have a higher percentage of discharges with perforated appendicitis; and • Expand the scope of the measure

0273 Perforated appendix admission rate (PQI 2)
The developer stated that the measure was designed with the intent to measure ready access to care and the quality of care in an area such as a county. The Committee supported continued endorsement of the measure based on performance gap and measure intent.

0265 Hospital transfer/admission
For More Information: Detailed Measure Specifications; Complete Measure Submission; Meeting/Call Proceedings
Description: Rate of ASC admissions requiring a hospital transfer or hospital admission upon discharge from the ASC Numerator Statement: Ambulatory surgical center (ASC) admissions requiring a hospital transfer or hospital admission upon discharge from the ASC. Denominator Statement: All ASC admissions Exclusions: None Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/ Agency Type of Measure: Outcome Data Source: Paper medical record/ flow-sheet Measure Steward: ASC Quality Collaboration | 5686 Escondida Blvd S | St. Petersburg | Florida | 33715
Steering Committee Recommendation for Endorsement: Y-18; N-3; A-1 Rationale: This measure focus is important and will encourage reporting and provide the ability to analyze transfer rates among ASCs.
If applicable, Conditions/Questions for Developer: 1. 1b.2 Summary of Measure Results Demonstrating Performance Gap: Rates and percentages presented in the measure are confusing. Please review and revise as appropriate 2. 1b.3 Data/Sample: There is a discrepancy between the data that was collected and publicly reported. In the usability section, it states that 1,185 ASCs submitted data for 2nd quarter 2010 on this particular measure; however, in section 1b.3, it states that only 526 ASCs submitted data on this measure. Please reconcile. 3. 2a.2 Numerator Time Window: Revise numerator statement from "…discharge from the ASC" to a more appropriate interval this will also reduce potential perverse incentives. Time window should be at least 24 hours, which would also reduce potential for the unintended incentive to discharge home when admission needed. 4. 2f.2. Methods to Identify Statistically Significant and Practical or Meaningful Differences in Performance: The statistical analysis does not specify a method; validity is questioned. Please reevaluate and in doing so, be specific about what is known about what transfer rates should be expected to be. 5. 2h. Disparities in Care: Please submit any subpopulation performance data that is available for the measures. The committee understands that ASCs do not have a quality reporting system requirement; however, assessment of subpopulation data is important and should be collected and reported for this and other measures. Developer Response: 1. Although data for 1,185 ASCs are included in the ASC QC database for this measure, many report at the corporate level and do not report data for individual ASCs. The ASC QC database includes center-level rates for this measure for 526 ASCs throughout the US. The rates for this measure are based on the 526 individually-reporting ambulatory surgery centers throughout the US for services provided during April to June 2010. The rate for unscheduled transfer or admission to a hospital ranged from a minimum of 0.0% to a maximum of 2.3%. The mean rate was 0.1% (SD: 0.2%), while the median rate was 0.1%. The maximum transfer rate of 2.3% and a third quartile value of 0.2% demonstrate that there is an opportunity for improvement in this measure. 2. Although data for 1,185 ASCs are included in the ASC QC database for this measure, many report at the corporate level and do not report data for individual ASCs. The ASC QC database includes center-level rates for this measure for 526 ASCs throughout the US. The 526 individually-reporting ambulatory surgery centers represent a convenience sample of the ASC population were used to assess the opportunity for improvement for this measure. The centers were located throughout the US. Services from the second calendar quarter of 2010 were included in this portion of the study. 3. Based on our experience to date, we have no reason to believe that patients requiring admission or transfer to the hospital are being discharged home in order to improve the ASC's performance on this measure. The malpractice risk from substandard care carries much graver consequences than any potential outcome from slightly higher rates of transfer/admission related to this measure. After discussion with NQF staff and if the Committee wishes to see a measure of the hospital admission rate for a more extended timeframe, we will create a separate measure using a sampling protocol. We propose to develop this measure using the following draft numerator and denominator statements, which may be modified during the development phase: Numerator statement: Ambulatory surgery center (ASC) admissions experiencing a hospital admission in the 24 hour period

0265 Hospital transfer/admission

following discharge from the ASC.
Denominator statement: All selected ASC patients (sampling protocol to be developed and tested)

4. An individual ASC's transfer rate may be compared to the standard rate from the ASC Quality website (http://www.ascquality.org/qualityreport.cfm#Transfer). A statistically significant difference in performance may be detected by using a standard test of proportions as outlined in most standard statistical texts. Since each transfer may represent increased risk exposure for the patient, a rate higher than the standard of 1 per 1000 is also of practical significance. The null hypothesis for this test is that the sample proportion from the ASC is not different from the industry standard taken from the ASC Quality website. The alternative is that there is a statistically significant difference. We recommend that this test be performed in its two-sided form so that the ASC may determine if they are either statistically higher or lower than the standard. The recommended p-value for this test is the 0.05 level, but ASCs may have justification for different value. Using this statistical method for detecting significant variances from the industry standard will allow users to determine if differences may be due to sampling error or may indicate a true difference in performance.
5. The data the ASC Quality Collaboration currently receives for this measure is collected at the ASC-level or at the level of the corporate parent of the ASC. Corporate parent data submissions combine data from multiple ASCs. Disparity measures by population group require the collection of patient-level data or collection of the data for individual populations of patients. At this time, the ASC Quality Collaboration does not have access to any patient-level or individual population level data that would allow for analysis of subpopulation disparities based on race, sex and age. However, we understand the importance of subpopulation data and are taking steps that would allow us to collect the necessary data. We are actively pursuing the development of a registry that would allow us to develop subpopulation performance data for this measure and others. Potential registry development vendors have been identified and initial communications regarding the project have already taken place. We plan to select a vendor by third quarter of 2011, initiate the development of the registry database immediately upon contract acceptance, and have a functioning registry three months thereafter.
6. ADDITIONAL INFORMATION and Response from Measure Developer:
We have also revised 2f1 for this measure #0265 Hospital Transfer to provide additional clarity:
2f.1. Data/Sample (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)
Although data for 1,185 ASCs are included in the ASC QC database, many report at the corporate level and do not report data for individual ASCs. The ASC QC database includes center-level rates for this measure for 526 ASCs throughout the US. The rates for this measure were collected for the 526 individually-reporting ambulatory surgery centers throughout the US for services provided during April to June 2010.

Steering Committee Follow-up:
The Steering Committee agreed with and encourages the developer's plan to create a measure to be submitted to NQF in the future focused on hospital admission rates with an extended timeframe. They expressed reservations that the current measure may have the unintended consequence of patients who are sent home rather than admitted when admission appeared a likely outcome. The Committee was also concerned about the burden of data collection, but agreed that the measure was important and, through reporting across ASCs and to the public, should further encourage reporting by ASCs. They agreed that the response from the developer was adequate.

1. Importance to Measure and Report: Y-15; N-5
(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)
Rationale: The Committee deems the focus of the measure important but has concerns about a) the potential for the unintended consequence of discharging a patient to home when potential need for admission is relatively high which argues for modification of the measure to include a time window for admission and b) the low admission rate reflected in the data provided does not demonstrate a meaningful performance gap. Modification of the measure with a broader time window could resolve the concerns.

2. Scientific Acceptability of Measure Properties: C-2; P-10; M-6; 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: The measure does not provide concise parameters for measurement benchmarking, since it does not establish an appropriate target rate of transfer. Developer was asked to address this and did so to the satisfaction of the committee. See developer response above.

3. Usability: C-6; P-9; M-3; N-2
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: The statistical analysis did not seem valid, since the outliers would vary by ambulatory surgical center. This measure may not be ready for public reporting since it does not have a specific target transfer rate. Developer was asked to address this and did so to the satisfaction of the committee. See developer response above.

0265 Hospital transfer/admission
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: Data is derived from the patient medical record. The measure could have the unintended consequence of promoting a discharge to home rather than a transfer, since an admission would be viewed as "failing to meet the measure".
Public and Member Comment • Unsure if measure will generate valuable information; and • Timeframe should be specified Support for this measure within the Committee was based on the intent to improve the ASC reporting rate of less than 50 percent of eligible ASCs. The developer has committed to develop a measure that would capture "Ambulatory surgery center (ASC) admissions experiencing a hospital admission in the 24 hour period following discharge from the ASC."

1519 Statin therapy at discharge after lower extremity bypass (LEB)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients aged 18 years and older undergoing infrainguinal lower extremity bypass who are prescribed a statin medication at discharge. This measure is proposed for both hospitals and individual providers. Numerator Statement: Patients undergoing infrainguinal lower extremity bypass who are prescribed a statin medication at discharge. Denominator Statement: All patients aged 18 years and older undergoing lower extremity bypass as defined above who are discharged alive, excluding those patients who are intolerant to statins. Exclusions: Chart documentation that patient was not an eligible candidate for statin therapy due to known drug intolerance, or patient died before discharge. Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Can be measured at all levels, Clinicians: Group, Clinicians: Individual, Facility/ Agency Type of Measure: Process Data Source: Registry data Measure Steward: Society for Vascular Surgery | 633 N. Saint Clair St., 22nd Floor | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-20; N-0 ; A-1 Rationale: The focus of the measure is important and while the evidence cited speaks to statin use for LDL control, use of statins without reference to LDL is the current trend and, per the developer, it is expected that it will be supported in future guidelines.
If applicable, Conditions/Questions for Developer: 1. 2a.2 Numerator Time Window: Timeframe lacks precision. Please address. 2. 2a.7 Denominator Time Window: Timeframe lacks precision. Please address. Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization Developer Response: We have modified the form time window for all SVS measures as follows: Since hospitals have sufficient annual volume to generate accurate reporting levels, these are proposed for reporting every 12 months for hospital. Since surgeons have lower individual volume, we recommend annual reporting of the last 50 consecutive procedures, which may span more than one year, with suppression if < 10 procedures (i.e., reported as too low volume to report). Steering Committee Follow-up: 1. The Steering Committee agreed that the response from the developer was adequate. 2. This was one of two related measures considered for potential harmonization. The two included: m*aintenance measure 0118*: Anti-lipid treatment discharge and n*ew candidate measure 1519*: Statin therapy at discharge after lower extremity bypass (LEB). Discussion of the two measures is included here. The Steering Committee stated that measures 0118 and 1519 were related in terms of therapy used; however, they involve different procedures and different patient populations and are reasonably aligned thus no further action was recommended.
1. Importance to Measure and Report: Y-19; N-1 (1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: The measure is based on a guideline that focuses on statin use for LDL control while the measure focuses on statin use regardless of the LDL control; however, the current trend in practice to use of statin without reference to LDL. Performance rates have improved from 41 percent to 79 percent, still short of the 90 percent goal.
2. Scientific Acceptability of Measure Properties: C-8; P-11; M-1; N-0

1519 Statin therapy at discharge after lower extremity bypass (LEB)
(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities) Rationale: The Committee noted the numerator and denominator timeframes lacked precision. The developer revised the timeframes to 12 months.
3. Usability: C-14; P-5; M-1; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure, which relies on registry data, was considered usable.
4. Feasibility: C-13; P-7; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The feasibility of implementation was questioned since the data comes from a registry. For registry participants the measure is quite feasible; a non-registry participant would have to collect manually or develop an electronic system.
Public and Member Comment Commenters suggested replacement of this process measure with an outcome measure. The focus of the measure was determined by the Committee to be important and is guideline based. NQF will continue to seek outcome measures that can supplement or supplant process measures.

1540 Postoperative stroke or death in asymptomatic patients undergoing carotid endarterectomy
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients age 18 or older without carotid territory neurologic or retinal symptoms within the one year immediately preceding carotid endarterectomy (CEA) who experience stroke or death following surgery while in the hospital. This measure is proposed for both hospitals and individual surgeons. Numerator Statement: Patients age 18 or older without preoperative carotid territory neurologic or retinal sympotoms within the one year immediately preceding CEA who experience stroke or death during their hospitalization following carotid endarterectomy Denominator Statement: Asymptomatic patients (based on NASCET criteria) on the within one year of CEA Exclusions: Exclude patients with neurologic symptoms within one year of procedure Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/ Agency, Clinicians: Individual, Clinicians: Group Type of Measure: Outcome Data Source: Registry data Measure Steward: Society for Vascular Surgery | 633 N. St. Clair, 22nd St. | Chicago | Illinois, 60611
Steering Committee Recommendation for Endorsement: Y-21; N-0; A-1 Rationale: The measure will help determine the incidence of adverse outcomes in the asymptomatic patient undergoing what is essentially a prophylactic procedure.
If applicable, Conditions/Questions for Developer: 1. 2a Measure Specifications: Provide information about type and accuracy of codes from registry data? Provide the codes. Diagnostic codes must be used and will need to ensure testing with these codes is complete. 2. 2h. Disparities in Care: Provide information about disparities or plans to be able to provide data. 3. 3a.2 Use in a Public Reporting Initiative: Please provide plans for public reporting (within 3 years). Developer Response: 1. As indicated in the list of previously provided registry variables that was attached to the last submission, post-operative stroke (major or minor) and death are recorded in the SVS registry. These are not derived from ICD-9 codes, but rather are directly obtained by review of the medical record, usually during the time of admission by clinical personnel. Definitions for these variables were also reported. We are not certain which "codes" are being referred to, since this is a registry measure defined by clinical definitions within the registry, or any other available registry that records postoperative stroke (major or minor) and death in asymptomatic patients undergoing carotid endarterectomy. 2. Disparities have not been reported. As additional data are acquired from the SVS registry across a much larger and varied population, future disparities may be discovered. 3. SVS intends to request that all of these measures be included in PQRS, and expects CMS to begin publishing PQRS data in the near future. Independent of this, SVS plans to request permission from participating providers and hospitals to publish these measures on the SVS public website. Steering Committee Follow-up: The Steering Committee discussed the importance of the measure. Carotid endarterectomy may be over utilized in asymptomatic

1540 Postoperative stroke or death in asymptomatic patients undergoing carotid endarterectomy
patients. The Committee agreed that the response from the developer was adequate.
1. Importance to Measure and Report: Y-20; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee considered the outcomes resulting from the asymptomatic patient undergoing carotid endarterectomy important to measure.
2. Scientific Acceptability of Measure Properties: C-6; P-14; M-1; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee noted the need to define and specify methods to document (e.g., ICD-9 coding, potential development and use of CPT-II codes) asymptomatic and then to standardize the definition. There was concern about whether the measure is, in fact, measuring what is intended. With the information that definitions for the variables are reported and further discussion, the concern was adequately addressed.
3. Usability: C-5; P-14; M-1; N-1 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The Committee was unclear about the details of the measure steward's plan for publicly reporting the measure. The developer indicated that they will request that the measure be included in PQRS.
4. Feasibility: C-4; P-13; M-3; 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: Concerns relate to capture of 'asymptomatic'. The Committee was interested in the potential of future CPT-II codes in this regard.
Public and Member Comment It was suggested that the measure would be more meaningful if the measure scope included additional adverse outcomes. The Committee suggested in future updates of the measure, that the developer consider inclusion of additional adverse outcomes including myocardial infarction.

1543 Postoperative stroke or death in asymptomatic patients undergoing carotid artery stenting (CAS)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients 18 years of age or older without carotid territory neurologic or retinal symptoms within 120 days immediately proceeding carotid angioplasty and stent (CAS) placement who experience stroke or death during their hospitalization for this procedure. This measure is proposed for both hospitals and individual interventionalists. Numerator Statement: Patients over age 18 without preoperative carotid territory neurologic or retinal sympotoms within one year of their procedure who experience stroke or death during their hospitalization following elective carotid artery angioplasty and stent placement Denominator Statement: Patients over age 18 without preoperative carotid territory neurologic or retinal symptoms within one year immediately preceding carotid artery stenting Exclusions: Exclude patients with neurologic symptoms within one year of procedure Adjustment/Stratification: No risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/ Agency, Clinicians: Individual, Clinicians: Group Type of Measure: Outcome Data Source: Registry data Measure Steward: Society for Vascular Surgery | 633 N. St. Clair, 22nd floor | Chicago | Illinois, 60611
Steering Committee Recommendation for Endorsement: Y-21; N-0; A-1 Rationale: The measure will help determine the incidence of adverse outcome in the asymptomatic patient undergoing what is essentially a prophylactic procedure.
If applicable, Conditions/Questions for Developer: The Committee suggested that measures related to carotid artery stenting be developed in conjunction with other specialties that perform the procedures; i.e., radiologists and cardiologists. Developer Response: 1. The measure proposed for carotid artery stenting is identical to the measure proposed for carotid endarterectomy, two competing procedures used to treat the same disease. By limiting the measure to asymptomatic patients, we are eliminating the need for risk adjustment, since this is embodied in the decision to perform these prophylactic procedures to prevent future stroke, i.e., the operative risk of stroke and death must be certain to be low in order to justify these procedures. Stroke and

1543 Postoperative stroke or death in asymptomatic patients undergoing carotid artery stenting (CAS)
death is the combined endpoint used in all randomized trials of these procedures, and we believe it is critically important that surgeons who perform carotid endarterectomy and stenting should report their outcomes for BOTH of these procedures. Since this is such a clean outcome measure, without need for risk adjustment, we do not believe that its approval should be withheld because it has not yet been proposed by other specialties. In fact, SVS VQI has surgeons and radiologists who participate and support an outcome measure for both carotid endarterectomy and stenting. We respectfully ask the committee to approve both of these important measures in parallel. The form has been updated to reflect relevant comments provided for other SVS measures. Steering Committee Follow-up: The Steering Committee agreed that the response from the developer was adequate and suggested that SVS work to develop measures with other specialties in the future.
1. Importance to Measure and Report: Y-21; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee considered the outcomes resulting from the asymptomatic patient undergoing carotid artery stenting important to measure.
2. Scientific Acceptability of Measure Properties: C-6; P-14; M-1; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee noted the need to define and specify methods to document (e.g., ICD-9 coding, potential development and use of CPT-II codes) asymptomatic and then to standardize the definition. With the information that definitions for the variables are reported and further discussion, the concern was adequately addressed.
3. Usability: C-6; P-13; M-1; N-1 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The Committee was unclear about the public reporting plan. The developer indicated that the measure is to be reported with 1540 and will request inclusion in PQRS.
4. Feasibility: C-6; P-11; M-3; 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: Concerns relate to capture of 'asymptomatic'. The Committee was interested in the potential of future CPT-II codes in this regard.
Public and Member Comment It was suggested that the measure would be more meaningful if the measure scope included additional adverse outcomes. The Committee suggested in future updates of the measure, that the developer consider inclusion of additional adverse outcomes including myocardial infarction.

0339 RACHS-1 pediatric heart surgery mortality
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Risk-adjusted rate of in-hospital death for pediatric cases undergoing surgery for congenital heart disease, along with ratio of observed to expected in-hospital mortality rates. 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)

0339 RACHS-1 pediatric heart surgery mortality
• 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 PDI: The predicted value for each case is computed using a logistic regression with Generalized Estimating Equations (GEE) to account for within hospital correlation containing RACHS-1 risk category; age category (<= 28 days, 29 to 90 days, 91 days to 1 year, 1 to 17 years); birth weight <2500 grams; non-cardiac structural anomaly (modified CCS 217); admission transferred in; and combination of congenital heart surgery procedures performed during admission. 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 2008 (updated annually), a database consisting of 43 states and approximately 7 million pediatric discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate (standardized mortality ratio), multiplied by the reference population rate. The model includes additional covariates for RACHS-1 risk categories, and multiple congenital heart procedures during the admission. Required data elements: 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; admission type; admission source. The user has the option to stratify by gender, birth weight, age in days, age in years, race / ethnicity, primary payer, and custom stratifiers./ The user has the option to stratify by gender, birth weight, 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: Y-24; N-0; 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. On the September 13 conference call, the Steering Committee reviewed this newly combined measure which represents the harmonization of the former 0339 and PCS-021-09. Members determined that it adequately addressed their request and met criteria. The developer indicated that this measure remains appropriate to be paired with measure *340: Pediatric Heart Surgery Volume (PDI 7)*,
1. Importance to Measure and Report: Y-22; N-0 *(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-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: The measure was considered scientifically acceptable.
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: This measure has been in wide use over a number of years and is considered usable.
4. Feasibility: C-19; P-3; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: This measure uses claims data thus was considered feasible.
Public and Member Comment • Should apply at the clinician level of analysis; and

0339 RACHS-1 pediatric heart surgery mortality

- No description of the risk adjustment model

The developer has yet to have the opportunity to test the application of the measure at the clinician level. The Committee is sensitive to a number of issues that should be considered as organizations determine at what level of analysis measures should be structured and reported. The Committee believes it is appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues.

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: Y-17; N-1; A-3
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.

Public and Member Comment

- Should apply at the clinician level of analysis; and
- Concerns of supporting volume as a stand-alone performance measure

The developer has yet to have the opportunity to test the application of the measure at the clinician level. The Committee is sensitive to a number of issues that should be considered as organizations determine at what level of analysis measures should be structured and reported. The Committee believes it is appropriate to consider clinician level reporting where appropriate after consideration of the attendant issues.

0340 Pediatric heart surgery volume (PDI 7)
This measure was initially endorsed to be reported as a pair with measure 0339. The recommendation is that it be continued to be reported as a pair.

0352 Failure to rescue in-hospital mortality (risk adjusted)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients who died with a complications in the hospital. Numerator Statement: Patients who died with a complication plus patients who died without documented complications. Death is defined as death in the hospital. All patients in an FTR analysis have developed a complication (by definition). Complicated patient has at least one of the complications defined in Appendix B(see website http://www.research.chop.edu/programs/cor/outcomes.php). Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. Comorbidities are defined in Appendix C (see website http://www.research.chop.edu/programs/cor/outcomes.php) using secondary ICD9 diagnosis codes of the current admission and primary or secondary ICD9 diagnosis codes of previous admission within 90 days of the admission date of the current admission. *When physician part B is available, the definition of complications and comorbidities are augmented to include CPT codes. Denominator Statement: General Surgery, Orthopedic and Vascular patients in specific DRGs with complications plus patients who died in the hospital without complications. Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A http://www.research.chop.edu/programs/cor/outcomes.php) Exclusions: Patients over age 90, under age 18. Adjustment/Stratification: risk-adjustment devised specifically for this measure/condition Risk Adjustment: Model was developed using logistic regression analysis. Associated data elements: age in years, sex, race, comorbidities, DRGs (combined with and without complications) and procedure codes within DRGs, transfer status. Failure to rescue is adjusted using a logistic regression model where y is a failure and the total N is composed of patients who develop a complication and patients who died without a complication. According to developer: The model adjustment variables can vary. We have found that FTR results are fairly stable, even with little adjustment, since all patients in an FTR analysis have developed a complication (by definition), they are a more homogeneous group of patients than the entire population. Hence severity adjustment plays somewhat less of a role than in other outcome measures/Complicated patient has at least one of the complications defined in Appendix B (http://www.research.chop.edu/programs/cor/outcomes.php) Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. When Physician Part B file is available, the definition of complications and comorbidities are augmented to include CPT codes. 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: Y-19; N-1; A-1 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

0352 Failure to rescue in-hospital mortality (risk adjusted)
upper bound on age, since DNR status prior to the procedure is not well defined at hospitals [Tabak YP, Johannes RS, Silber JH, Kurtz SG, Gibber EM. Should do-not-resuscitate status be included as a mortality risk adjustor? The impact of DNR variations on performance reporting. Med Care 2005; 43:658-666] (See 2d.1 Measure Exclusions Explanation section in submission form). Currently, we are not considering developing a companion pediatric measure because in general the pediatric population has low mortality rates. However we are currently exploring the development of a pediatric FTR specifically for cardiothoracic surgery where mortality rates are higher. 2. 2h. Disparities in Care: 2h.1. Disparities in care are shown in Silber et al Arch Surg 2009 where the results show white patients displayed a reduction in failure-to-rescue rates in the teaching intensive hospitals vs. non-teaching hospitals (OR, 0.94; 95% CI, 0.92-0.97), black patients displayed an increased failure-to-rescue rate (OR, 1.06; 95% CI, 1.00-1.12)(Results are based on 30 day mortality FTR however in-hospital showed similar results) 2h.2 Failure to Rescue can be used to detect disparities in health outcomes across providers, shown in Silber et al. Arch Surg 2009. 3. 3a.2 Use in Public Reporting Initiative: FTR information is online for the public to access (http://stokes.chop.edu/programs/cor/outcomes.php). Consumers can access FTR results through the multiple research publications on the measure. In the future FTR could be reported on a wider scale, the same way that mortality rates are reported. Steering Committee Follow-up: 1. The Steering Committee agreed that the response from the developer was adequate. 2. This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0352*: Failure to rescue in-hospital mortality (risk adjusted); m*aintenance measure 0351*: Death among surgical in-patients with serious, treatable complications (PSI 4); and m*aintenance measure 0353*: Failure to rescue 30-day mortality (risk adjusted). Discussion of the three measures is included here. It was noted that measures 0352 and 0353 were initially a single measure that were divided at request of the NQF steering committee that initially considered the measure. The Steering Committee discussed the in-hospital focused measures with the developers in some detail. They noted that while the measures have common elements, measure 0351 captures a broader list of procedures and that some measures of validity have a stronger association with that measure. They also noted that measure 0352 captures a broader group of complications and reliability measures higher than those of 0351 have been reported. Members commented that the measures, while conceptually similar, have different aims; i.e., capture of avoidable complications vs. failure to rescue. In reflecting on the question of whether measure similarities argue for consideration of whether one meets criteria better than the other, they agreed that the measures have different objectives and are complementary.
1. Importance to Measure and Report: Y-18; N-3 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The measure complements mortality and complication statistics. It provides additional insight into statistics by looking beyond crude mortality and assesses whether hospital systems are in place to prevent a patient complication from progressing to death. This measure is supported by the evidence.
2. Scientific Acceptability of Measure Properties: C-9; P-11; M-1; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. 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.
Public and Member Comment • Should apply at the clinician level of analysis; and • Preference of capturing DNR orders The developer noted that failure to rescue has always been a hospital measure because: (1) the sample size requirements at the physician level would generally be a problem; (2) attributing blame for not succeeding to avoid an FTR is complex, and needs a systems

0352 Failure to rescue in-hospital mortality (risk adjusted)
approach. Directing the blame at a specific physician would seem counterproductive; (3) other measures may better assess physician quality, but this is outside of the research I have conducted in developing the FTR metric. Failure to rescue in the hospital setting involves many systems and professional disciplines making it infeasible to apply the measure at the clinician level. The Committee agreed with the developer that at present use of DNR status as an exclusion could result in hospital differences due to the DNR process.

0353 Failure to rescue 30-day mortality (risk adjusted)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients who died with a complication within 30 days from admission. Numerator Statement: Patients who died with a complication plus patients who died without documented complications. Death is defined as death within 30 days from admission. All patients in an FTR analysis have developed a complication (by definition). Complicated patient has at least one of the complications defined in Appendix B(see website http://www.research.chop.edu/programs/cor/outcomes.php). Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. Comorbidities are defined in Appendix C(see website http://www.research.chop.edu/programs/cor/outcomes.php) using secondary ICD9 diagnosis codes of the current admission and primary or secondary ICD9 diagnosis codes of previous admission within 90 days of the admission date of the current admission. *When physician part B is available, the definition of complications and comorbidities are augmented to include CPT codes. Denominator Statement: General Surgery, Orthopedic and Vascular patients in specific DRGs with complications plus patients who died in the hospital without complications. Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A http://www.research.chop.edu/programs/cor/outcomes.php) Inclusions: adult patients admitted for one of the procedures in the General Surgery, Orthopedic or Vascular DRGs (see appendix A) Exclusions: Patients over age 90, under age 18. Adjustment/Stratification: risk-adjustment devised specifically for this measure/condition Risk Adjustment: Model was developed using logistic regression analysis. Associated data elements: age in years, sex, race, comorbidities, DRGs (combined with and without complications) and procedure codes within DRGs, transfer status. Failure to rescue is adjusted using a logistic regression model where y is a failure and the total N is composed of patients who develop a complication and patients who died without a complication. According to developer: The model adjustment variables can vary. We have found that FTR results are fairly stable, even with little adjustment, since all patients in an FTR analysis have developed a complication (by definition), they are a more homogeneous group of patients than the entire population. Hence severity adjustment plays somewhat less of a role than in other outcome measures/Complicated patient has at least one of the complications defined in Appendix B (http://www.research.chop.edu/programs/cor/outcomes.php) Complications are defined using the secondary ICD9 diagnosis and procedure codes and the DRG code of the current admission. When Physician Part B file is available, the definition of complications and comorbidities are augmented to include CPT codes. Level of Analysis: Facility/ Agency, Health Plan, Integrated Delivery System, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States Type of Measure: Outcome Data Source: Electronic administrative data/ claims Measure Steward: The Children´s Hospital of Philadelphia | 34th St. and Civic Center Blvd. | Philadelphia | Pennsylvania | 19104
Steering Committee Recommendation for Endorsement: Y-19; N-2; 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.

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

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

Developer Response:

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

Steering Committee Follow-up:

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

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

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

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

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

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

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

0353 Failure to rescue 30-day mortality (risk adjusted)
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 useable; however, it may be complicated to track given the 30 day range.
4. Feasibility: C-3; P-10; M-7; N-1 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: This measure has not yet been used in public reporting. There were questions regarding feasibility of use of this measure for non-Medicare patients.
Public and Member Comment • Should apply at the clinician level of analysis; and • Preference of capturing DNR orders The developer noted that failure to rescue has always been a hospital measure because: (1) the sample size requirements at the physician level would generally be a problem; (2) attributing blame for not succeeding to avoid an FTR is complex, and needs a systems approach. Directing the blame at a specific physician would seem counterproductive; (3) other measures may better assess physician quality, but this is outside of the research I have conducted in developing the FTR metric. The Committee indicated that failure to rescue in the hospital setting involves many systems and professional disciplines making it infeasible to apply the measure at the clinician level. The Committee agreed with the developer that at present use of DNR status as an exclusion could result in hospital differences due to the DNR process.

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: Y-20; N-0; A-1 Rationale: This measure highlights specific complications, which presents opportunities for early interventions and action
If applicable, Conditions/Questions for Developer:

0351 Death among surgical inpatients with serious, treatable complications (PSI 4)
1. 2a.6 Target Population Age Range: Expand the age range to include a larger population. Note: Discussion of Related and Competing measures may result in additional requests to developers specific to harmonization. Developer Response: 1. There was an error in the NQF measure maintenance form, which noted age 75 years and older were excluded. The actual exclusion is age 90 years and older. Steering Committee Follow-up: 1. The Steering Committee agreed that the response from the developer was adequate, but requested that the developer update the age specifications listed on their website. 2. This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0352*: Failure to rescue in-hospital mortality (risk adjusted); m*aintenance measure 0351*: Death among surgical in-patients with serious, treatable complications (PSI 4); and m*aintenance measure 0353*: Failure to rescue 30-day mortality (risk adjusted). Discussion of the three measures is included here. It was noted that measures 0352 and 0353 were initially a single measure that were divided at request of the NQF steering committee that initially considered the measure. The Steering Committee discussed the in-hospital focused measures with the developers in some detail. They noted that while the measures have common elements, measure 0351 captures a broader list of procedures and that some measures of validity have a stronger association with that measure. They also noted that measure 0352 captures a broader group of complications and reliability measures higher than those of 0351 have been reported. Members commented that the measures, while conceptually similar, have different aims; i.e., capture of avoidable complications vs. failure to rescue. In reflecting on the question of whether measure similarities argue for consideration of whether one meets criteria better than the other, they agreed that the measures have different objectives and are complementary.
1. Importance to Measure and Report: Y-19; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: This goal of this measure is to capture information about a specific set of surgical complications that have been determined to provide opportunity for early intervention and improvement action.
2. Scientific Acceptability of Measure Properties: C-13; P-7; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: An advantage of this measure is that it focuses on a broad population, patients 18 and over.
3. Usability: C-13; P-7; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure is currently being widely reported to the public.
4. Feasibility: C-14; P-5; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The measure uses claims data and was considered feasible.
Public and Member Comment Commenters expressed concerns of using hierarchical risk modeling (HRM). The developer indicated that the measure can be calculated to produce a risk adjusted rate and a smoothed rate. HRM is used in the smoothed rate, but not the risk adjusted rate. The user has the option to use either rate.

0515 Ambulatory surgery patients with appropriate method of hair removal
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of ASC admissions with appropriate surgical site hair removal. Numerator Statement: ASC admissions with surgical site hair removal with a razor or clippers from the scrotal area, or with clippers or depilatory cream from all other surgical sites Denominator Statement: All ASC admissions with surgical site hair removal Exclusions: ASC admissions who perform their own hair removal Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/Agency Type of Measure: Process Data Source: Paper medical record/ flow-sheet Measure Steward: ASC Quality Collaboration | 5686 Escondida Blvd S | St. Petersburg | Florida | 33715
Steering Committee Recommendation for Endorsement: Y-12 (active); Y-7 (reserve); N-2; A-1

0515 Ambulatory surgery patients with appropriate method of hair removal
Rationale: This measure has high performance in the reporting populations. It would be appropriate to consider reporting the measure as part of a surgical bundle.
Steering Committee Follow-up: The measure developer requested that the Committee's recommendation of the measure be revised from reserve status to active endorsement. The Steering Committee noted that the 96 percent performance on the measure reflected a convenience sample of the 192 institutions that reported and may not accurately reflect performance within the larger ambulatory surgery community. Members agreed that continuing active endorsement of the measure could encourage reporting by those ASCs not currently participating. The developer stated that measure has been proposed for inclusion in the ASC measure set by CMS, and nationwide reporting is anticipated in the next year or so. The Committee agreed that, depending on the increase in reporting, this could allow for a more comprehensive review of the performance gap in the future.
1. Importance to Measure and Report: Y-6; N-13 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The evidence supports the measure; however, at a mean performance level of 96 percent and just over 7 percent of reporting centers with rates below 100 percent, the measure is at a high level of performance.
2. Scientific Acceptability of Measure Properties: C-5; P-13; M-0; N-1 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee stated that the validity testing of the measure could be improved, and the measure did not present disparity data.
3. Usability: C-7; P-9; M-2; N-1 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure is in wide use. It was noted that this measure was harmonized with measure *0301: Surgery patients with appropriate hair removal.*
4. Feasibility: C-13; P-4; M-2; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: Required data is generated as part of care and does not require additional sources.
Public and Member Comment Commenters were not in support of this measure because they believed that 100 percent compliance could occur with the removal of razors from the operating room. The Steering Committee's support for continuing this measure in active status was based on the intent to increase the number of ASCs that report the measure to both drive and assess accomplishment of the measure. Absent evidence to the contrary, razors continue to be an acceptable method for preoperative removal of scrotal hair and scalp hair in select circumstances. The exclusion of patients who shave themselves does not diminish capability of the measure to assess ASC performance. In a measure assessing the relationship of method of hair removal to post-operative infection, self-shaving would be an appropriate consideration.

1550 Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: This measure estimates hospital risk-standardized complication rates (RSCRs) associated with primary elective THA and TKA in patients 65 years and older. The measure uses Medicare claims data to identify complications occurring from the date of index admission to 90 days post date of the index admission. Numerator Statement: This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year); thus, we are using this field to define the outcome (i.e. adverse events) following THA and/or TKA procedures. The outcome is one or more complications, including death, identified from the date of the index admission up to 90 days post date of the index admission, depending on the complication. Complications are counted in the measure only if they occur during the index hospital admission or during a readmission. The composite complication is a binary outcome (yes for any complication(s); no for no complications). Therefore, if a patient experiences 1 or more complications, the outcome variable will get coded as a "yes." Complications are counted in the measure only if they occur during the index hospital admission or during a readmission. The complications captured in the numerator are identified during the index admission or associated with a readmission up to 90 days post date of index admission, depending on the complication. The follow-up period for complications from date of index admission is as follows:

1550 Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
1) Mechanical complications - 90 days 2) Periprosthetic joint infection (PJI) - 90 days 3) Wound infection - 90 days 4) Surgical site bleeding - 30 days 5) Pulmonary embolism - 30 days 6) Death - 30 days 7) AMI - 7 days 8) Pneumonia - 7 days 9) Sepsis/septicemia - 7days Denominator Statement: The target population for this measure includes admissions for patients at least 65 years of age undergoing elective primary THA and/or TKA procedures. Exclusions: Patients will be excluded from the cohort if they meet any of the followed criteria*: 1. Patients with hip fractures Presence of one of the following diagnosis codes: 733.1, 733.10, 733.14, 733.15, 733.19, 733.8, 733.81, 733.82, 733.95, 733.96, 733.97, 808.0, 808.1, 820.00, 820.01, 820.02, 820.03, 820.09, 820.10, 820.11, 820.12, 820.13, 820.19, 820.20, 820.21, 820.22, 820.30, 820.31, 820.32, 820.8, 820.9, 821, 821.0, 821.00, 821.01, 821.1, 821.10, 821.11 Rationale: Patients with hip fractures have higher mortality, complication and readmission rates and the procedure (THA) is not elective. 2. Patients undergoing revision procedures (with or without a concurrent THA/TKA) Presence of one of the following diagnosis codes: 81.53, 81.55, 81.59, 00.70, 00.71, 00.72, 00.73, 00.80, 00.81, 00.82, 00.83, 00.84 Rationale: Revision procedures may be performed at a disproportionately small number of hospitals and are associated with higher mortality, complication and readmission rates. 3. Patients undergoing partial hip arthroplasty procedures (with or without a concurrent THA/TKA) Presence of the following diagnosis code: 81.52 Rationale: Partial arthroplasties are primarily done for hip fractures and are typically performed on patients who are older, more frail, and with more comorbid conditions. 4. Patients undergoing resurfacing procedures (with or without a concurrent THA/TKA) Presence of one of the following diagnosis codes: 00.85, 00.86, 00.87 Rationale: Resurfacing procedures are a different type of procedure which are typically performed on younger, healthier patients. 5. Patients with a mechanical complication coded in the principal discharge diagnosis field of the index admission* Rationale: A complication coded in the principal field indicates it was present on admission, and these patients underwent an arthroplasty due to a complication related to a prior procedure. Furthermore, these patients may require more technically complex arthroplasty procedures, and may be at increased risk for complications, particularly mechanical complications. 6. Patients who are transferred in to the index hospital Rationale: If the patient is transferred from another acute care facility to the hospital where the index procedure occurs, it is likely that the procedure is not elective. 76. Patients who leave the hospital against medical advice (AMA) Rationale: Hospitals and physicians do not have the opportunity to provide the highest quality care. 87. Patients with more than two THA/TKA procedure codes during the index hospitalization Rationale: Patients with more than two procedure codes for THA/TKA are excluded because it is rare that a patient would have 3 arthroplasty procedures done at one time. This is likely to be a coding error. 98. Patients with multiple admissions for THA/TKA in the 12 months studied; one hospitalization per patient was randomly selected for inclusion after applying the other exclusion criteria Rationale: ~~Admissions for the same patient are statistically dependent and it is preferable to include one admission per year in the measure.~~Observations are not independent; a patient is not eligible for the death outcome during the first admission if admitted later in the year for another procedure *Based on a medical record validation study of this measure, we also excluded patients with a mechanical complication coded in the *principal discharge diagnosis field of the index admission* because a complication coded in the principal field indicates it was present on admission. Furthermore, these patients represent more technically complex arthroplasty procedures, and may be at increased risk for complications, particularly mechanical complications. Please refer to section 2c, Validity Testing for details regarding the validation study. Adjustment/Stratification: Risk-adjustment devised specifically for this measure/condition/ The measure estimates hospital-level RSCRs using hierarchical logistic regression models. In brief, the approach simultaneously models outcomes at two levels (patient and hospital) to account for the variance in patient outcomes within and between hospitals (Normand et al., 2007). At the patient level, the model adjusts the log-odds of a complication for age, sex, and selected clinical covariates. The second level models the hospital-specific

1550 Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
intercepts as arising from a normal distribution. The hospital intercept represents the underlying risk of complication at the hospital, after accounting for case mix. If there were no differences among hospitals, then after adjusting for case mix, the hospital intercepts should be identical across all hospitals. The measure adjusts for key variables that were clinically relevant and had strong relationships with the outcome (e.g. demographic factors, disease severity indicators, and indicators of frailty). For each patient, covariates are obtained from Medicare claims extending 12 months prior to and including the index admission. The model adjusts for case mix differences based on the clinical status of the patient at the time of admission. We use condition categories (CCs), which are clinically meaningful groupings of more than 15,000 ICD-9-CM diagnosis and procedure codes. Conditions that may represent adverse outcomes due to care received during the index admission are not considered for inclusion in the risk adjusted model. Although they may increase the risk of mortality and complications, including them as covariates in a risk-adjusted model could attenuate the measure's ability to characterize the quality of care delivered by hospitals. Hence, these conditions are not adjusted for if they only appear in the index admission and not in the 12 months prior to admission. The risk adjustment model included 33 variables which are listed below: Demographic 1. Age-65 (years above 65, continuous) 2. Sex THA/TKA Procedure 3. THA procedure 4. Number of procedures performed Clinical Risk Factors 5. Skeletal deformities (ICD-9 code 755.63) 6. Post traumatic osteoarthritis (ICD-9 codes 716.15, 716.16) 7. Morbid obesity (ICD-9 code 278.01) 8. Metastatic cancer and acute leukemia (CC 7) 9. Cancer (CC 8-10) 10. Respiratory/Heart/Digestive/Urinary/Other Neoplasms (CC 11-13) 11. Diabetes and DM complications (CC 15-20,119,120) 12. Protein-calorie malnutrition (CC 21) 13. Bone/Joint/Muscle Infections/Necrosis (CC 37) 14. Rheumatoid Arthritis and Inflammatory Connective Tissue Disease (CC 38) 15. Osteoarthritis of hip and knee (CC 40) 16. Osteoporosis and Other Bone/Cartilage Disorders (CC 41) 17. Dementia and senility (CC 49, 50) 18. Major psychiatric disorders (CC 54-56) 19. Hemiplegia, paraplegia, paralysis, function disability (CC 67-69, 100-102, 177-178) 20. Cardio-respiratory failure and shock (CC 79) 21. Chronic atherosclerosis (CC 83-84) 22. Stroke (CC 95, 96) 23. Vascular or circulatory disease (CC 104-106) 24. COPD (CC 108) 25. Pneumonia (CC 111-113) 26. Pleural effusion/ pneumothorax (CC 114) 27. End-stage renal disease or dialysis (CC 129, 130) 28. Renal Failure (CC 131) 29. Decubitus ulcer or chronic skin ulcer (CC 148, 149) 30. Trauma (CC 154-156,158-161) 31. Vertebral Fractures (CC 157) 32. Other injuries (CC 162) 33. Major complications of medical care and trauma (CC 164) Normand S-LT, Shahian DM. 2007. Statistical and Clinical Aspects of Hospital Outcomes Profiling. Stat Sci 22 (2): 206-226/ This measure is not stratified/ Level of Analysis: Facility/ Agency Type of Measure: Outcome Data Source: Electronic administrative data/ claims The datasets used to create the measures are described below.

1550 Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
1. 2008 Part A (inpatient) data Part A inpatient data includes claims paid for Medicare inpatient hospital care, skilled nursing facility care, some home health agency services, and hospice care. For purposes of this project, Part A is used to refer to inpatient services only and includes data from 2 time periods: a. Index admission: Index admission data are based on the inclusion/exclusion criteria for THA/TKA, and comorbidities (if any) are identified from the secondary diagnoses associated with the index admission. b. Pre-index: 12 months prior to the index admission ("pre-index"). 2. 2008 Part A (outpatient) data – 12 months pre-index Hospital outpatient refers to Medicare claims paid for the facility component of surgical or diagnostic procedures, emergency room care, and other non-inpatient services performed in a hospital outpatient department or ambulatory surgical/diagnostic center. 3. Part B data – 12 months pre-index Part B data refers to Medicare claims for the services of physicians (regardless of setting) and other outpatient care, services, and supplies. For purposes of this project, Part B services included only face-to-face encounters between a care provider and patient. We thus do not include services such as laboratory tests, medical supplies, or other ambulatory services. 4. 2008 Medicare Enrollment Database This database contains Medicare beneficiary demographic, benefit/coverage, enrollment status on admission, and vital status information. These data have previously been shown to accurately reflect patient vital status (Fleming Fisher et al., 1992). Fleming C., Fisher ES, Chang CH, Bubolz D, Malenda J. Studying outcomes and hospital utilization in the elderly: The advantages of a merged data base for Medicare and Veterans Affairs Hospitals. Medical Care. 1992; 30(5): 377-91. Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Blvd, Mail Stop S3-02-01 | Baltimore | Maryland | 21244
Steering Committee Recommendation for Endorsement: Y-20; N-0; A-2 Rationale: This is a high volume, costly procedure that has been increasingly performed and will be important to measure and report.
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-19; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: This is a high volume, costly procedure that has been increasingly performed. There are a number of complications associated with this procedure.
2. Scientific Acceptability of Measure Properties: C-11; 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: The measure is valid. The follow-up timing varies depending on the complication. There is a segment of patients that will not be counted with this measure based on the age range, which is limited to patients 65 and over. The risk adjustment is sophisticated. The Committee questioned why deep vein thrombosis (DVT) and urinary tract infections (UTIs) were considered exclusions and noted that the included complications are appropriate.
3. Usability: C-10; P-10; 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 relies on claims data and is useful for reporting even though timing for the complications may make it more complicated in that there are at different intervals; i.e., 7, 30, 90 days.
4. Feasibility: C-14; P-6; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The measure was considered feasible based on the use of administrative claims data.
Public and Member Comment • Socioeconomic status (SES) should be included in risk adjustment models; • Concerns of using hierarchical risk modeling (HRM); • Level of analysis should include providers at all levels; • Expand to commercial population (ages 18-64); and • Inadequate list of ICD-9-CM codes in the denominator exclusions The goal of outcomes measurement is to identify variation in the quality of health care so that hospitals can implement measures to

1550 Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
improve patient outcomes. Variation in quality associated with population characteristics, such as SES, may be indicative of disparities in the quality of the care provided to vulnerable populations, and risk adjusting for these factors would obscure these disparities. It is a national health priority to bring the outcomes for low SES patients to that of the level of all patients. HGLM was used because it accurately reflects the structure of the data being analyzed (patients nested within hospitals). Second, hierarchical models distinguish within-hospital variation and between-hospital variation to estimate the hospital's contribution to the risk of complications. 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. NQF will have a white paper on risk adjustment for CSAC review in Fall 2011. The use of the measure requires facility level measurement which is appropriate. With respect to performance of providers at all levels, the Committee is sensitive to a number of issues that should be considered as organizations determine at what level of analysis measures should be structured and reported. The developer is currently performing analyses to support this recommendation and plan to specify the measure in all-payer data and for persons aged 18 and older in 2012. These changes will then be submitted to the NQF. The developer identified the denominator exclusions in consultation with an advisory group of orthopedic surgeons with experience in identifying relevant procedures in claims data.

1551 Hospital-level 30-day all-cause risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: This measure estimates hospital 30-day RSRRs following elective primary THA and TKA in patients 65 years and older. The measure uses Medicare claims data to develop a hospital-level RSRR for THA and TKA and will include patients readmitted for any reason within 30 days of discharge date of the index admission. Some patients are admitted within 30 days of the index hospitalization to undergo another elective THA/TKA procedure. These are considered planned readmissions and are NOT counted in the measure as readmissions. Numerator Statement: This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year); thus, we are using this field to define readmissions. The outcome for this measure is a readmission to any acute care hospital, for any reason occurring within 30 days of the discharge date of the index hospitalization. We do not count planned readmissions in the outcome (see numerator details). Denominator Statement: The target population for this measure includes admissions for patients at least 65 years of age undergoing primary THA and/or TKA procedures. Exclusions: Patients will be excluded from the cohort if they meet any of the followed criteria: 1. Patients with hip fractures Presence of one of the following diagnosis codes: 733.1, 733.10, 733.14, 733.15, 733.19, 733.8, 733.81, 733.82, 733.95, 733.96, 733.97, 808.0, 808.1, 820.00, 820.01, 820.02, 820.03, 820.09, 820.10, 820.11, 820.12, 820.13, 820.19, 820.20, 820.21, 820.22, 820.30, 820.31, 820.32, 820.8, 820.9, 821, 821.0, 821.00, 821.01, 821.1, 821.10, 821.11 Rationale: Patients with hip fractures have higher mortality, complication and readmission rates and the procedure (THA) is generally not elective. 2. Patients undergoing revision procedures (with or without a concurrent THA/TKA) Presence of one of the following procedure codes: 81.53, 81.55, 81.59, 00.70, 00.71, 00.72, 00.73, 00.80, 00.81, 00.82, 00.83, 00.84 Rationale: Revision procedures may be performed at a disproportionately small number of hospitals and are associated with higher mortality, complication, and readmission rates. 3. Patients undergoing partial hip arthroplasty procedures (with or without a concurrent THA/TKA) Presence of the following procedure code: 81.52 Rationale: Partial arthroplasties are primarily done for hip fractures and are typically performed on patients who are older, more frail, and with more comorbid conditions. 4. Patients undergoing resurfacing procedures (with or without a concurrent THA/TKA) Presence of one of the following procedure codes: 00.85, 00.86, 00.87 Rationale: Resurfacing procedures are a different type of procedure which are typically performed on younger, healthier patients. 5. Patients with a mechanical complication coded in the principal discharge diagnosis field of the index admission* Rationale: A complication coded in the principal field indicates it was present on admission, and these patients underwent an

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

arthroplasty due to a complication related to a prior procedure. Furthermore, these patients may require more technically complex arthroplasty procedures, and may be at increased risk for complications, particularly mechanical complications.

6. Patients without at least 30-days post-discharge enrolment in Medicare

Rationale: The 30-day readmission outcome cannot be assessed for the standardized time period.

7~~6~~. Patients who are transferred in to the index hospital

Rationale: If the patient is transferred from another acute care facility to the hospital where the index procedure occurs, it is likely that the procedure is not elective.

8~~7~~. Patients who were admitted for the index procedure and subsequently transferred to another acute care facility

Rationale: Attribution of readmission to the index hospital would not be possible in these cases, since the index hospital performed the procedure but another hospital discharged the patient to the non-acute care setting.

9~~8~~. Patients who leave against medical advice (AMA)

Rationale: Hospitals and physicians do not have the opportunity to provide the highest quality care for these patients.

10~~9~~. Patients with more than two THA/TKA procedures codes during the index hospitalization

Rationale: Patients with more than two procedure codes for THA/TKA are excluded because it is rare that a patient would have 3 arthroplasty procedures done at one time. This is likely to be a coding error.

10. Patients who die during the index admission

Rationale: Patients who die during the initial hospitalization are not eligible for readmission.

Additional otherwise qualifying THA and/or TKA admissions that occurred within 30 days of discharge date of an earlier index admission are not considered as index admission. They are considered as potential readmissions. Any THA and/or TKA admission is either an index admission or a potential readmission, but not both.

*Based on a medical record validation study of the paired hospital risk-standardized complications measure, we also excluded patients with a mechanical complication coded in the *principal discharge diagnosis field of the index admission* because a complication coded in the principal field indicates it was present on admission. Furthermore, these patients represent more technically complex arthroplasty procedures, and may be at increased risk for readmission, particularly for mechanical complications.

Prior to this cohort exclusion, there were 295,224 patients in the readmission measure cohort (2008). After excluding from the measure cohort, the patients who had a mechanical complication coded in the principal discharge diagnosis field on the index admission, the number of patients in the cohort decreased by 930 patients to 294,292 (less than 0.5% decrease).

The hospital risk-standardized mean readmission rate prior to this cohort exclusion was 6.25% (range 3.03 to 50.97%). The hospital risk-standardized mean readmission rate after this cohort exclusion increased slightly to 6.27% (range 3.06 to 50.72%). Thus, the additional cohort exclusion has a minimal effect on the hospital risk-standardized mean readmission rate, but the range of the rate still shows significant variation in hospital readmission rates. Details regarding the validation study are provided in the NQF application for the paired hospital risk-standardized complications measure (section 2c, Validity Testing).

Adjustment/Stratification: Risk-adjustment devised specifically for this measure/condition The measure estimates hospital-level 30-day all-cause RSRRs using hierarchical logistic regression models. In brief, the approach simultaneously models outcomes at two levels (patient and hospital) to account for the variance in patient outcomes within and between hospitals (Normand et al., 2007). To model the log-odds of 30-day all-cause readmission at the patient level, the model adjusts for age, sex, and selected clinical covariates. The second level models the hospital-specific intercepts as arising from a normal distribution. The hospital intercept represents the underlying risk of readmission at the hospital, after accounting for case mix. If there were no differences among hospitals, then after adjusting for case mix, the hospital intercepts should be identical across all hospitals. The measure adjusts for key variables that are clinically relevant and have strong relationships with the outcome (e.g. demographic factors, disease severity indicators, and indicators of frailty). For each patient, covariates are obtained from Medicare claims extending 12 months prior to and including the index admission. The model adjusts for case mix differences based on the clinical status of the patient at the time of admission. We use condition categories (CCs), which are clinically meaningful groupings of more than 15,000 ICD-9-CM diagnosis and procedure codes. We do not risk-adjust for CCs that are possible adverse events of care and that are only recorded in the index admission. In addition, only comorbidities that convey information about the patient at that time or in the 12-months prior, and not complications that arise during the course of the hospitalization are included in the risk-adjustment. The risk adjustment model included 33 variables which are listed below:

Demographics

1. Age-65 (years above 65, continuous)
2. Sex

TKA/THA Procedure

3. THA procedure
4. Number of procedures (2 vs.1)

Clinical Risk Factors

1551 Hospital-level 30-day all-cause risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
5. History of Infection (CC 1, 3-6) 6. Metastatic cancer and acute leukemia (CC 7) 7. Cancer (CC 8-12) 8. Diabetes and DM complications (CC 15-20, 119, 120) 9. Protein-calorie malnutrition (CC 21) 10. Disorders of Fluid/Electrolyte/Acid-Base (CC 22, 23) 11. Rheumatoid Arthritis and Inflammatory Connective Tissue Disease (CC 38) 12. Severe Hematological Disorders (CC 44) 13. Dementia and senility (CC 49, 50) 14. Major psychiatric disorders (CC 54-56) 15. Hemiplegia, paraplegia, paralysis, functional disability (CC 67-69, 100-102, 177-178) 16. Polyneuropathy (CC 71) 17. Congestive Heart Failure (CC 80) 18. Chronic Atherosclerosis (CC 83-84) 19. Hypertension (CC 89, 91) 20. Arrhythmias (CC 92, 93) 21. Stroke (CC 95, 96) 22. Vascular or circulatory disease (CC 104-106) 23. COPD (CC 108) 24. Pneumonia (CC 111-113) 25. End-stage renal disease or dialysis (CC 129, 130) 26. Renal Failure (CC 131) 27. Decubitus ulcer or chronic skin ulcer (CC 148, 149) 28. Cellulitis, Local Skin Infection (CC 152) 29. Other Injuries (CC162) 30. Major Symptoms, Abnormalities (CC 166) 31. Skeletal Deformities (ICD-9 code 755.63) 32. Post Traumatic Osteoarthritis (ICD-9 codes 716.15, 716.16) 33. Morbid Obesity (ICD-9 code 278.01)/No stratification is required for this measure. Level of Analysis: Facility/ Agency Type of Measure: Outcome Data Source: Electronic administrative data/ claims We obtained index admission, readmission, and in-hospital comorbidity data from Medicare's Standard Analytic File (SAF). Comorbidities were also assessed using Part A inpatient, outpatient, and Part B office visit Medicare claims in the 12 months prior to index admission. Enrollment and post-discharge mortality status were obtained from Medicare's enrollment database which contains beneficiary demographic, benefit/coverage, and vital status information. 1. 2008 Part A (inpatient) data Part A inpatient data includes claims for Medicare inpatient hospital care, skilled nursing facility care, some home health agency services, and hospice care. For purposes of this project, Part A is used to refer to inpatient services only and includes data from 2 time periods: a. Index admission: Index admission data are based on the inclusion/exclusion criteria for THA/TKA, and comorbidities (if any) are identified from the secondary diagnoses associated with the index admission. b. Pre-index: 12 months prior to the index admission ("pre-index"). 2. 2008 Part A (outpatient) data – 12 months pre-index Hospital outpatient refers to Medicare claims paid for the facility component of surgical or diagnostic procedures, emergency room care, and other non-inpatient services performed in a hospital outpatient department or ambulatory surgical/diagnostic center. 3. Part B data – 12 months pre-index Part B data refers to Medicare claims for the services of physicians (regardless of setting) and other outpatient care, services, and supplies. For purposes of this project, Part B services included only face-to-face encounters between a care provider and patient. We thus do not include services such as laboratory tests, medical supplies, or other ambulatory services. Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Blvd, Mail Stop S3-02-01 | Baltimore | Maryland | 21244
Steering Committee Recommendation for Endorsement: Y-20; N-0; A-2 Rationale: This is a high volume, costly procedure that has been increasingly performed and will be important to measure and report.
If applicable, Conditions/Questions for Developer:

1551 Hospital-level 30-day all-cause risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)
Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-20; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: This is a high volume, costly procedure that has been increasingly performed. There are a number of complications associated with this procedure.
2. Scientific Acceptability of Measure Properties: C-15; 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: This was considered valid and easier to measure than *1550 Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and total knee arthroplasty (TKA)* since it focuses on all causes for readmission other than for elective procedures. There is a segment of patients that will not be counted within this measure based on the age range, which is limited to patients aged 65 years and over. The risk adjustment is sophisticated. The Committee questioned why deep vein thrombosis (DVT) and urinary tract infections (UTIs) were considered exclusions.
3. Usability: C-16; P-4; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure is in wide use.
4. Feasibility: C-14; 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 is based on administrative claims data.
Public and Member Comment • Socioeconomic status (SES) should be included in risk adjustment models; • Concerns of using hierarchical risk modeling (HRM); • Level of analysis should apply to providers at all levels; • Expand to commercial population (ages 18-64); and The goal of outcomes measurement is to identify variation in the quality of health care so that hospitals can implement measures to improve patient outcomes. Variation in quality associated with population characteristics, such as SES, may be indicative of disparities in the quality of the care provided to vulnerable populations, and risk adjusting for these factors would obscure these disparities. It is a national health priority to bring the outcomes for low SES patients to that of the level of all patients. HGLM was used because it accurately reflects the structure of the data being analyzed (patients nested within hospitals). Second, hierarchical models distinguish within-hospital variation and between-hospital variation to estimate the hospital's contribution to the risk of complications. 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. NQF will have a white paper on risk adjustment for CSAC review in Fall 2011. The use of the measure requires facility level measurement which is appropriate. With respect to performance of providers at all levels, the Committee is sensitive to a number of issues that should be considered as organizations determine at what level of analysis measures should be structured and reported. The developer is currently performing analyses to support this recommendation and plan to specify the measure in all-payer data and for persons aged 18 and older in 2012. These changes will then be submitted to the NQF.

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:

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

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Chorioretinal scars 363.33
Chorioretinal scars 363.35
Chronic iridocyclitis 364.10
Chronic iridocyclitis 364.11
Cloudy cornea 371.01
Cloudy cornea 371.02
Cloudy cornea 371.03
Cloudy cornea 371.04
Corneal edema 371.20
Corneal edema 371.21
Corneal edema 371.22
Corneal edema 371.23
Corneal edema 371.43
Corneal edema 371.44
Corneal opacity and other disorders of cornea 371.00
Corneal opacity and other disorders of cornea 371.03
Corneal opacity and other disorders of cornea 371.04
Degenerative disorders of globe 360.20
Degenerative disorders of globe 360.21
Degenerative disorders of globe 360.23
Degenerative disorders of globe 360.24
Degenerative disorders of globe 360.29
Degeneration of macula and posterior pole 362.50
Degeneration of macula and posterior pole 362.51
Degeneration of macula and posterior pole 362.52
Degeneration of macula and posterior pole 362.53
Degeneration of macula and posterior pole 362.54
Degeneration of macula and posterior pole 362.55
Degeneration of macula and posterior pole 362.56
Degeneration of macula and posterior pole 362.57
Disseminated chorioretinitis and disseminated retinochoroiditis 363.10
Disseminated chorioretinitis and disseminated retinochoroiditis 363.11
Disseminated chorioretinitis and disseminated retinochoroiditis 363.12
Disseminated chorioretinitis and disseminated retinochoroiditis 363.13
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

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Focal chorioretinitis and focal retinochoroiditis	363.08
Glaucoma	365.10
Glaucoma	365.11
Glaucoma	365.12
Glaucoma	365.13
Glaucoma	365.14
Glaucoma	365.15
Glaucoma	365.20
Glaucoma	365.21
Glaucoma	365.22
Glaucoma	365.23
Glaucoma	365.24
Glaucoma	365.31
Glaucoma	365.32
Glaucoma	365.51
Glaucoma	365.52
Glaucoma	365.59
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.41
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.42
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.43
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.44
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.60
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.61
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.62
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.63
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.64
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.65
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.81
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.82
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.83
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.89
Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes	365.9
Hereditary corneal dystrophies	371.50
Hereditary corneal dystrophies	371.51
Hereditary corneal dystrophies	371.52
Hereditary corneal dystrophies	371.53
Hereditary corneal dystrophies	371.54
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

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Hereditary retinal dystrophies 362.76
High myopia 360.20
High myopia 360.21
Injury to optic nerve and pathways 950.0
Injury to optic nerve and pathways 950.1
Injury to optic nerve and pathways 950.2
Injury to optic nerve and pathways 950.3
Injury to optic nerve and pathways 950.9
Keratitis 370.03
Moderate or severe impairment, better eye, profound impairment lesser eye 369.10
Moderate or severe impairment, better eye, profound impairment lesser eye 369.11
Moderate or severe impairment, better eye, profound impairment lesser eye 369.12
Moderate or severe impairment, better eye, profound impairment lesser eye 369.13
Moderate or severe impairment, better eye, profound impairment lesser eye 369.14
Moderate or severe impairment, better eye, profound impairment lesser eye 369.15
Moderate or severe impairment, better eye, profound impairment lesser eye 369.16
Moderate or severe impairment, better eye, profound impairment lesser eye 369.17
Moderate or severe impairment, better eye, profound impairment lesser eye 369.18
Nystagmus and iother irregular eye movements 379.51
Open wound of eyeball 871.0
Open wound of eyeball 871.1
Open wound of eyeball 871.2
Open wound of eyeball 871.3
Open wound of eyeball 871.4
Open wound of eyeball 871.5
Open wound of eyeball 871.6
Open wound of eyeball 871.7
Open wound of eyeball 871.9
Optic atrophy 377.10
Optic atrophy 377.11
Optic atrophy 377.12
Optic atrophy 377.13
Optic atrophy 377.14
Optic atrophy 377.15
Optic atrophy 377.16
Optic neuritis 377.30
Optic neuritis 377.31
Optic neuritis 377.32
Optic neuritis 377.33
Optic neuritis 377.34
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

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Other endophthalmitis 360.19
Other retinal disorders 362.81
Other retinal disorders 362.82
Other retinal disorders 362.83
Other retinal disorders 362.84
Other retinal disorders 362.85
Other retinal disorders 362.89
Other and unspecified forms of chorioretinitis and retinochoroiditis 363.20
Other and unspecified forms of chorioretinitis and retinochoroiditis 363.21
Other and unspecified forms of chorioretinitis and retinochoroiditis 363.22
Prior penetrating keratoplasty 371.60
Prior penetrating keratoplasty 371.61
Prior penetrating keratoplasty 371.62
Profound impairment, both eyes 369.00
Profound impairment, both eyes 369.01
Profound impairment, both eyes 369.02
Profound impairment, both eyes 369.03
Profound impairment, both eyes 369.04
Profound impairment, both eyes 369.05
Profound impairment, both eyes 369.06
Profound impairment, both eyes 369.07
Profound impairment, both eyes 369.08
Purulent endophthalmitis 360.00
Purulent endophthalmitis 360.01
Purulent endophthalmitis 360.02
Purulent endophthalmitis 360.03
Purulent endophthalmitis 360.04
Retinal detachment with retinal defect 361.00
Retinal detachment with retinal defect 361.01
Retinal detachment with retinal defect 361.02
Retinal detachment with retinal defect 361.03
Retinal detachment with retinal defect 361.04
Retinal detachment with retinal defect 361.05
Retinal detachment with retinal defect 361.06
Retinal detachment with retinal defect 361.07
Retinal vascular occlusion 362.31
Retinal vascular occlusion 362.32
Retinal vascular occlusion 362.35
Retinal vascular occlusion 362.36
Retinopathy of prematurity 362.21
Scleritis and episcleritis 379.04
Scleritis and episcleritis 379.05
Scleritis and episcleritis 379.06
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

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Mar;28(3):108-14. 3. Gothwal VK, Wright TA, Lamoureux EL, Pesudovs K. Measuring outcomes of cataract surgery using the Visual Function Index-14. J Cataract Refract Surg 2010; 36:1181-8. no risk adjustment necessary Level of Analysis: Clinicians: Individual Type of Measure: Outcome Data Source: Survey: Patient Measure Steward: American Academy of Ophthalmology and Hoskins Center for Quality Eye Care | 655 Beach Street | San Francisco | California, 94109-1336
Steering Committee Recommendation for Endorsement: Y-16; N-4; A-1 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) Indicate whether objective vs. subjective improvement by survey only; d) Specify whether patient is surveyed both pre-and post-surgery. If only post-surgery, is the patient asked to rate vision preoperatively and asked to rate vision post-operatively, or is the patient asked to rate the number of points of improvement? 2. 2a.9 Denominator Exclusions: Excluding patients who do not want to complete the survey inappropriately inflates the rate. 3. 2a.25 Data Source/Data Collection Instrument: a) Identify the specific tool(s) used for the measure and provide information about the use for which it/they have been validated (e.g., self-administration, provider facilitated administration, etc.); b) Include information about why the objective assessment of visual function/acuity should be supplement with such a measure; c) Define survey methodology: Is it a mail survey, phone survey, in office paper survey with questions asked by office staff? Is the survey of the entire population of those with cataract surgery or a sample? If a sample, please specify sampling methodology. 4. 3a.2 Use in Public Reporting Initiative: Provide plans and expected date (within 3 years) for public reporting. 5. 4e Data Collection Strategy: Clarify more specifically the burden on providers of data collection. Developer Response: 1. 2a.3 Numerator Details: a) The method to define "improvement" used is the quantitative scale used pre and post surgery to measure visual function with the VF-8R instrument. The scale is from 0-100, with 0 indicating the lack of ability to perform any of the daily activities and 100 indicating full capability of performing the daily activities included in the survey. Currently in the scientific literature, there is no well-established method to define a threshold or interval that indicates improvement on the VF-8R. The Rasch scale has found to be more sensitive to change than the VF-14 in longitudinal studies and has a different scale for scoring than the VF-14. The VF-14 is based on summative scoring, which has no rationale for how numerical values are assigned and how a summary score is produced, and does not give a sense of the degree of change. The Rasch model is based on Item Response Theory, which is based on item difficulty in relationship to an individual's ability and weighs the overall score accordingly, providing a gain in precision. Thus any difference between the pre-operative and post-operative scores on the VF-8R would indicate an improvement in functional activities. The average difference found between pre-operative and post-operative assessment on the VF-8R was 15.39 (Standard error = 2.66). In the literature, there have been two studies looking at the clinically important differences for the VF-14 index. One study found that the minimal clinically important difference was 15.57; another study found that the minimally clinically important difference was 5.5. b) Regarding the cases that do not complete visual function instruments; these will not be included in the numerator. c) This is subjective improvement by patient self-reporting by survey, as measured by the VF-8R instrument. d) The patient is surveyed both pre- and post-surgery. 2. 2a.9 Denominator Exclusions: We agree and will not exclude patients who do not want to complete the survey. 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

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disability caused by visual impairment, because many activities of daily living are affected by one or more of these components of visual function. c) The survey methodology is described as follows. The survey would be administered by a third party (a registry for reporting of PQRS measures) to prevent or minimize bias which might be introduced if it is an in-office paper survey with questions asked by the office staff. Options would be provided to the patient, either online survey, mail survey or phone survey, depending on their preferences and abilities. The survey would be of a sample of those individuals with cataract surgery. The sample size would be postulated at 30, because this is a well-accepted statistical sample and used by the CMS for reporting on measure groups in PQRS. Because visual function is reported at 90 days after surgery, this would allow physicians to identify 30 cases from January –August for reporting purposes. 4. 3a.2 Use in Public Reporting Initiative: This is planned for public reporting through the CMS PQRS within the next 3 years. 5. 4e Data Collection Strategy: The sampling strategy of 30 cases, and the use of a third party (a registry for reporting of PQRS measures initiated by the Academy) should significantly alleviate the burden on providers of data collection. Providers would not be responsible for collecting this data from patients and following up on their response. Steering Committee Follow-up: 1. The Steering Committee stated that the data collection strategy involving the use of a third party and registry initiated by the Academy would alleviate the burden on providers. The Steering Committee clarified that about 94 percent of practicing ophthalmology practices belong to the Academy but that non-members could also be included in the registry. 2. This was one of two related measures considered for potential harmonization. The two included: n*ew candidate measure 1536*: Cataracts: Improvement in patient's visual function within 90 days following cataract surgery; and e*ndorsed measure 0565*: Cataracts: 20/40 or better visual acuity within 90 days following cataract surgery. Discussion of the two measures is included here. The Steering Committee noted that measures 1536 and 0565 are similar but not competing since one measures acuity and the other patient perception of visual function. Potential for harmonization was discussed in terms of numerator and denominator as well as data gathering strategies. It was determined that harmonization could result in the loss of valuable information. The group also liked the fact that measure 1536 measures patient satisfaction. Variation between the measures was considered acceptable since the measures are designed to capture different things/data.
1. Importance to Measure and Report: Y-18; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee recognized the frequent occurrence of cataract surgery in the United States. They also affirmed the importance of patient-centered measures. In this measure, visual function is considered a more broad assessment than that of visual acuity.
2. Scientific Acceptability of Measure Properties: C-2; P-12; M-4; N-1 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee was advised that the tool used for assessment of visual function had been validated. It was questioned how the measure defined visual improvement. The time window of the measure may need to be extended to take into account multi-focal implants, which are now being used to improve visual acuity. The Committee suggested measuring the improvement in visual function for patients with and without comorbidities.
3. Usability: C-1; P-15; M-1; N-2 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The tool is self-administered. The return rate has been 50 percent; which is considered a good rate for surveys. Some patient contact has been required to increase return rate. The Committee encouraged the developer to reconsider this practice. They did note the value to consumer decision making to have the type of information the measure provides.
4. Feasibility: C-1; P-12; M-4; N-2 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: It was questioned whether patients could accurately assess their visual acuity. In addition to potential bias introduced by calling patients to respond, they also mentioned that the exclusion criteria of "patient refused to participate" may bias the results. Additionally, conducting the survey will incur a cost and the burden on the provider was described as unclear.

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Public and Member Comment Commenters note that this a good measure and suggested that the threshold of 'improvement' is needed to make the measure more objective. The developer indicated that improvement in visual function is defined by the quantitative scale used in the VF-8R survey instrument pre and post-surgery. The VF-8R uses a Rasch model 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. The function 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. The Committee noted that with additional experience and evidence, categories reflecting amount of improvement may prove possible and encourages continued evolution of the measure.

0528 Prophylactic antibiotic selection for surgical patients
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure). Numerator Statement: Surgical patients who received recommended prophylactic antibiotics for specific surgical procedures Denominator Statement: All selected surgical patients with no evidence of prior infection. Included Populations: An ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.10 for ICD-9-CM codes). AND An ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.01-5.08 for ICD-9-CM codes). Exclusions: Excluded Populations: Patients less than 18 years of age Patients who have a length of Stay greater than 120 days Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes) Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope Patients enrolled in clinical trials Patients whose ICD-9-CM principal procedure occurred prior to the date of admission Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest Patients who expired perioperatively Patients who were receiving antibiotics more than 24 hours prior to surgery (except colon surgery patients taking oral prophylactic antibiotics) Patients who were receiving antibiotics within 24 hours prior to arrival (except colon surgery patients taking oral prophylactic antibiotics) Patients who did not receive any antibiotics before or during surgery, or within 24 hours after Anesthesia End Time (i.e., patient did not receive prophylactic antibiotics) Patients who did not receive any antibiotics during this hospitalization Adjustment/Stratification: no risk adjustment necessary/The antibiotic prophylaxis measures are stratified according to surgery type. The tables are subsets of Table 5.10 (see link for Specification Manual and Appendix A, Tables 5.01 to 5.08. The specific procedures must be in the large table (Table 5.10) to be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-2 are 5.01 to 5.08. Level of Analysis: Facility/ Agency, Population: National, Can be measured at all levels, Program: QIO Type of Measure: Process Data Source: Electronic administrative data/ claims; Electronic Health/ Medical Record; Paper medical record/ flow-sheet Most facilities use vendors to collect the data electronically. CMS provides a free, downloadable tool called CART. A paper tool modeled after the data collected electronically is provided as an attachment. CART downloads can be found on QualityNet.org at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093 Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Boulevard , Mail Stop S3-01-02 | Baltimore | Maryland | 21244-1850
Steering Committee Recommendation for Endorsement: Y-22; N-1; A-1 Rationale: This measure was described as appropriate and important to encourage continued focus on post surgical infection.
Steering Committee Follow-up: This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0126*: Selection of antibiotic prophylaxis for cardiac surgery patients; e*ndorsed measure 0268*: Selection of prophylactic antibiotic: First or second generation cephalosporin; and m*aintenance measure 0528*: Prophylactic antibiotic selection for surgical patients. Discussion of the three measures is included here. The Steering Committee determined there were no competing measures in the group. Members

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made no recommendations for harmonization of measure 0126 which is limited to cardiac surgery and is derived from registry data. Members requested that measures 0268 and 0528 be combined into a single measure from which the cephalosporin data for individual clinicians required by 0268 could be reported as a subset. For the measure not within the current project (AMA-PCPI measure 0268), NQF staff will relay the request of the Committee for developer action as they update and test the measure. The combined measure is expected to be submitted for consideration under the next Surgery Endorsement Maintenance project scheduled to launch in 2013.
1. Importance to Measure and Report: Y-18; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The measure is strongly supported by evidence. While performance rates are relatively high, room for improvement remains.
2. Scientific Acceptability of Measure Properties: C-15; P-3; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The science behind the antibiotic selections is good but will need to continue to be harmonized with national guidelines as they come out. The Committee noted that including laparoscopic procedures will no longer be an exclusion effective January 1, 2012, which they supported.
3. Usability: C-16; P-2; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The Committee indicated that the measure will require ongoing harmonization with national guidelines as they are released.
4. Feasibility: C-15; P-3; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The Committee stated that the measure was feasible based on data source.
Public and Member Comment • Should be combined with measure 0527 to create a patient-centered all-or-none composite; and • Measure relies on a specific type of antibiotic used for compliance This measure is collected as part of a bundle of measures, but a composite measure of antibiotic administration (timing and selection) will be reviewed for consideration. CMS is willing to participate in harmonization efforts with other stakeholders. The Committee noted that while the measure was not submitted for consideration as part of a composite, endorsement as a stand-alone measure does not preclude its reporting with, or inclusion in a composite with, other measures. The measure specifications are based on several guidelines and therefore have a variety of recommendations, not a single class of antimicrobials. The measure is supported by the evidence. The measure developer is responsible for ongoing monitoring of the evidence and providing updates as the evidence evolves.

0126 Selection of antibiotic prophylaxis for cardiac surgery patients
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of patients aged 18 years and older undergoing cardiac surgery who received preoperative prophylactic antibiotics recommended for the operation. Numerator Statement: Number of patients undergoing cardiac surgery who received a first generation or second generation cephalosporin prophylactic antibiotic (e.g., cefazolin, cefuroxime, cefamandole) preoperatively or in the event of a documented allergy, an alternate antibiotic choice (e.g., vancomycin, clindamycin) was ordered and administered preoperatively. Denominator Statement: Number of patients undergoing cardiac surgery Exclusions: Exclusions include: - Patients who had a principal diagnosis suggestive of preoperative infectious diseases - Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope - Patients enrolled in clinical trials - Patients with documented infection prior to surgical procedure of interest - Patients who expired perioperatively - Patients who were receiving antibiotics more than 24 hours prior to surgery - Patients who were receiving antibiotics within 24 hours prior to arrival - Patients who did not receive any antibiotics before or during surgery, or within 24 hours after anesthesia end time (i.e., patient did not receive prophylactic antibiotics) - Patients who did not receive any antibiotics during this hospitalization

0126 Selection of antibiotic prophylaxis for cardiac surgery patients
This list will be provided in the STS Adult Cardiac Surgery Database Data Manager's Training Manual as acceptable exclusions. AbxSelect is marked "Exclusion" Adjustment/Stratification: no risk adjustment necessary N/A N/A Level of Analysis: Clinicians: Group, Facility/ Agency, Population: Counties or cities, Population: National, Population: Regional/ network, Population: States Type of Measure: Process Data Source: Registry data Measure Steward: Society of Thoracic Surgeons | 633 North Saint Clair Street, Suite 2320 | Chicago | Illinois | 60611
Steering Committee Recommendation for Endorsement: Y-22; N-1; A-1 Rationale: The Committee affirmed that the seriousness of infections following these procedures makes this measure and its focus important to track and agreed that 92 percent performance indicates room for continued improvement.
Steering Committee Comments: This was one of three related measures considered for potential harmonization. The three included: m*aintenance measure 0126*: Selection of antibiotic prophylaxis for cardiac surgery patients; e*ndorsed measure 0268*: Selection of prophylactic antibiotic: First or second generation cephalosporin; and m*aintenance measure 0528*: Prophylactic antibiotic selection for surgical patients. Discussion of the three measures is included here. The Steering Committee determined there were no competing measures in the group. Members made no recommendations for harmonization of measure 0126 which is limited to cardiac surgery and is derived from registry data. Members requested that measures 0268 and 0528 be combined into a single measure from which the cephalosporin data for individual clinicians required by 0268 could be reported as a subset. For the measure not within the current project (AMA-PCPI measure 0268), NQF staff will relay the request of the Committee for developer action as they update and test the measure.
1. Importance to Measure and Report: Y-19; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The evidence indicated that the use of prophylactic antibiotics can decrease the incidence of mediastinitis, which ranges between 0.25 percent and 4 percent. The seriousness of infection in the population measured suggests that even at 92 percent performance, additional improvement should be expected and sought.
2. Scientific Acceptability of Measure Properties: C-15; P-4; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The measure focus on prophylaxis and measure specifications were considered appropriate and valid.
3. Usability: C-17; P-2; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure has been in use since 2007 and is publicly reported on the STS and Consumers Union websites.
4. Feasibility: C-18; P-1; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The measure was considered feasible based on its continued use over time.
Public and Member Comment • Considers the measure to be topped out due to the mean value being greater than 90 percent; and • Should be combined with measure 0126 and 0127 to create a patient-centered all-or-none composite Although the mean value is greater than 90 percent, the distribution of values indicates there is opportunity for improvement. The denominator of measures 0117 and 0127 differ from measure 0126. In addition, two of the measures are included in the NQF-endorsed® measure 0696 The STS CABG Composite Score. Endorsement as a stand alone measure does not preclude use in a composite.

0264 Prophylactic intravenous (IV) antibiotic timing
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Rate of ASC patients who received IV antibiotics ordered for surgical site infection prophylaxis on time Numerator Statement: Number of ambulatory surgical center (ASC) admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection who received the prophylactic antibiotic on time Denominator Statement: All ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection

0264 Prophylactic intravenous (IV) antibiotic timing

Exclusions: ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of infections other than surgical site infections (e.g., bacterial endocarditis).
ASC admissions with a preoperative order for a prophylactic antibiotic not administered by the intravenous route.
Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure.
Level of Analysis: Facility/ Agency
Type of Measure: Process
Data Source: Paper medical record/ flow-sheet
Measure Steward: ASC Quality Collaboration | 5686 Escondida Blvd S | St. Petersburg | Florida | 33715

Steering Committee Recommendation for Endorsement: Y-18; N-1; A-3
Rationale: This measure was considered important to measure and report despite its small performance gap. The Committee wants to see disparities information prior to making any determination regarding continued reporting of the measure.

If applicable, Conditions/Questions for Developer:

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

Developer Response:

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

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

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

2a.3. Numerator Details *(All information required to collect or calculate the numerator, including all codes, logic, and definitions)*
DEFINITIONS:
On time: antibiotic infusion is initiated within one hour prior to the time of the initial surgical incision or the beginning of the procedure (e.g., introduction of endoscope, insertion of needle, inflation of tourniquet) or two hours prior if vancomycin or a fluoroquinolone is administered:

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

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

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

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

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

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

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

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

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

ADDITIONAL INFORMATION and Response from Measure Developer:

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

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

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

1b.3. Citations for Data on Performance Gap

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

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

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

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

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

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

An individual ASC's rate for timely administration of antibiotic may be compared to the standard rate from the ASC Quality website (http://www.ascquality.org/qualityreport.cfm#Antibiotic). A statistically significant difference in performance may be detected by using a standard test of proportions as outlined in most standard statistical texts. Since each delay in administration of the preoperative antibiotic may represent increased surgical site infection risk for the patient, a rate lower than the 94.4% is also of practical significance.

The null hypothesis for this test is that the sample proportion from the ASC is not different from the industry standard taken from the ASC Quality website. The alternative is that there is a statistically significant difference. We recommend that this test be performed in its two-sided form so that the ASC may determine if they are either statistically higher or lower than the standard. The recommended p-value for this test is the 0.05 level, but ASCs may have justification for different value. Using this statistical method for detecting significant variances from the industry standard will allow users to determine if differences may be due to sampling error or may indicate a true difference in performance.

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

Steering Committee Follow-Up:

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

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

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

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

0264 Prophylactic intravenous (IV) antibiotic timing
2. Scientific Acceptability of Measure Properties: C-10; P-9; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The Committee questioned why the measure focused on antibiotics being provided in a one hour timeframe.
3. Usability: C-12; P-7; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The Committee described the measure as usable.
4. Feasibility: C-13; P-6; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The measure uses procedure codes, which makes it less burdensome for ambulatory surgical centers to collect.
Public and Member Comment Commenters showed support for the measure but recommended that ongoing assessment of the measure occur. The ASC Quality Collaboration reviews its measures on an annual or as needed basis to ensure they remain consistent with the evidence base. Modifications are made as needed.

0527 Prophylactic antibiotic received within 1 hour prior to surgical incision
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision. Patients who received vancomycin or a fluoroquinolone for prophylactic antibiotics should have the antibiotics initiated within two hours prior to surgical incision. Due to the longer infusion time required for vancomycin or a fluoroquinolone, it is acceptable to start these antibiotics within two hours prior to incision time. Numerator Statement: Number of surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision (two hours if receiving vancomycin, in Appendix C, Table 3.8, or a fluoroquinolone, in Appendix C, Table 3.10). Denominator Statement: All selected surgical patients with no evidence of prior infection. Table 5.10 is the complete table of selected major surgeries Exclusions: Patients less than 18 years of age Patients who have a Length of Stay greater than 120 days Patients who had a hysterectomy and a caesarean section performed during this hospitalization Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes) Patients whose ICD-9-CM principal procedure was performed entirely by Laparoscope Patients enrolled in clinical trials Patients whose ICD-9-CM principal procedure occurred prior to the date of admission Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest Patients who had other procedures requiring general or spinal anesthesia that occurred within 3 days (4 days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay Patients who were receiving antibiotics more than 24 hours prior to surgery Patients who were receiving antibiotics within 24 hours prior to arrival (except colon surgery patients taking oral prophylactic antibiotics) Adjustment/Stratification: no risk adjustment necessary/The antibiotic prophylaxis measures are stratified according to surgery type. The tables are subsets of Table 5.10 (see link for Specification Manual and Appendix A, Tables 5.01 to 5.08. The specific procedures must be in the large table (Table 5.10) to be eligible for the SCIP measures. The measure specific tables for SCIP-Inf-1 are 5.01 to 5.08. Level of Analysis: Can be measured at all levels, Facility/ Agency, Population: National, Program: QIO Type of Measure: Process Data Source: Electronic administrative data/ claims, Electronic Health/ Medical Record, Paper medical record/ flow-sheet Most facilities use vendors to collect and submit the data electronically. CMS provides a free, downloadable tool called CART. A paper tool modeled after the data collected electronically is provided as an attachment. CART downloads can be found on QualityNet.org at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093 Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Boulevard , Mail Stop S3-01-02 | Baltimore | Maryland | 21244-1850
Steering Committee Recommendation for Endorsement: Y-21; N-2; A-1

0527 Prophylactic antibiotic received within 1 hour prior to surgical incision
Rationale: The measure focus and specifications are appropriate. Performance presents disparity data that demonstrates performance gaps across subpopulations.
Steering Committee Follow-up: This was one of five related measures considered for potential harmonization. The five included: m*aintenance measure 0125*: Timing of antibiotic prophylaxis for cardiac surgery patients; e*ndorsed measure 0269*: Timing of prophylactic antibiotics-administering physician; e*ndorsed measure 0270*: Timing of antibiotic prophylaxis-ordering physician; m*aintenance measure 0527*: Prophylactic antibiotic received within 1 hour prior to surgical incision SCIP-Inf-1; and e*ndorsed measure: 0472*: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery-cesarean section. Discussion of the five measures is included here. The Steering Committee requested that the developer of measures 0270 and 0269, neither of which are under consideration in this project, be approached by NQF staff to determine the current state of these measures and encourage them to consider combining them into a single measure that focuses on administration. Based on their opinion that timing of antibiotics administration prior to surgical incision, including for cardiac surgery, should not be different. Members asked that the developers of the five measures be asked to collaborate on the potential for combining the measures into a single measure that, to the extent possible, closely mirrors measure 0527. As part of that effort, they asked that the developer of measure 0472 provide information about any differences that would make administration of antibiotic at delivery unique. They did not view incision for cesarean unique. With respect to measure 0125, they asked that the developer provide information about whether registry data would provide significantly different outcomes than administrative/claims data across institutions. For the measures not within the current project (AMA-PCPI measure 0269 and 270 and Massachusetts General measure 0472), NQF staff will relay the request of the Committee for their action and feedback. The combined measure is expected to be submitted for consideration under the next Surgery Endorsement Maintenance project scheduled to launch in 2013.
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-19; N-0 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The measure focus is supported by the evidence. While the performance gap has been reduced over time, the measure continues to demonstrate a performance gap that could be improved. It was also noted that the gap still exists for general surgeries compared with cardiac surgeries.
2. Scientific Acceptability of Measure Properties: C-13; P-6; M-0; N-0 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The measure focus and specifications are appropriate. The request that laparoscopic procedure be removed from the exclusions will become effective January 1, 2012.
3. Usability: C-14; P-5; M-0; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure has been widely used for some time; harmonization with the similar measures below should be considered: #0125: Timing of antibiotic prophylaxis for cardiac surgery patients #0269: Timing of prophylactic antibiotics - administering physician #0270: Timing of antibiotic prophylaxis- ordering physician #0472: Prophylactic antibiotic received within one hour prior to surgical incision or at the time of delivery – cesarean section.
4. Feasibility: C-18; P-1; M-0; N-0 *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale: The Committee stated that the measure was feasible based on the data required and its record of use.
Public and Member Comment Commenters suggested the measure be combined with measure 0528 to create a patient-centered all-or-none composite. This measure is collected as part of a bundle of measures, but a composite measure of antibiotic administration (timing and selection) will be reviewed for consideration. CMS is willing to participate in harmonization efforts with other stakeholders. The Committee noted that while the measure was not submitted for consideration as part of a composite, endorsement as a stand-alone measure does not preclude its reporting with, or inclusion in a composite with, other measures.

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.

General, Ophthalmology, Orthopedics and Pediatrics

0301 Surgery patients with appropriate hair removal
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of surgery patients with surgical hair site removal with clippers or depilatory or no surgical site hair removal. Numerator Statement: Surgery patients with surgical hair site removal with clippers or depilatory or no surgical site hair removal Denominator Statement: All selected surgery patients Include patients with an ICD-9-CM Principal 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 whose ICD-9-CM principal procedure was performed entirely by laparoscope. Patients enrolled in clinical trials Patients whose ICD-9-CM principal procedure occurred prior to the date of admission Patients who performed their own hair removal Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Facility/ Agency, Can be measured at all levels, Population: National, Program: QIO Type of Measure: Process Data Source: Electronic administrative data/ claims, Electronic Health/ Medical Record: Electronic Provider Survey/ Paper medical record/ flow-sheet Most facilities use vendors to collect the data electronically. CMS provides a free, downloadable tool called CART. A paper tool modeled after the data collected electronically is provided as an attachment. CART downloads can be found on QualityNet.org at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093 Measure Steward: Centers for Medicare & Medicaid Services | 7500 Security Blvd, Mail Stop S3-02-01 | Baltimore | Maryland | 21244
Steering Committee Recommendation for Endorsement: Recommended and placement in Reserve Status Y-14 (reserve); Y-5 (active); N-2; A-1 Rationale: This measure is at a high level of performance but should remain available in the event periodic surveillance demonstrates a drop in performance. It addresses the important concern of surgical site infections (SSI).
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-4; N-15 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: This measure is at a high level of performance. Medicare data indicates consistent high performance with a 99.6 percent appropriate rate of hair removal in the second quarter of 2010. Concern about discontinuing regularly reporting was centered on the potential to have performance drop (e.g., return of use of razors the operating room for economic reasons). The measure is on the list of CMS measures to be retired in 2013 or 2014. It would be appropriate to consider reporting the measure as a component of a surgical bundle. There is evidence from randomized trials and systematic review that support the measure focus; though, the Committee noted lack of "absolutely" clear evidence.
2. Scientific Acceptability of Measure Properties: C-10; P-8; M-0; N-1 *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale: The measure is supported by the literature thought it contains numerous exclusions. Both the number and some of the specific exclusions (self hair removal) were discussed in some length and accepted.
3. Usability: C-12; P-5; M-1; N-1 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The measure is part of a group of surgical site infection measures that are publicly reported widely.

0301 Surgery patients with appropriate hair removal
4. Feasibility: C-13; P-5; 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 data is drawn from patient health records and claims data.
Public and Member Comment Commenters were not in support of this measure because they believed that 100 percent compliance could occur with the removal of razors from the operating room. CMS is retaining the measure but has decided to suspend data collection requirements to address comments and concerns about the retirement of accountability measures. Evidence supports shaving in select circumstances. To balance the need to reduce the number of measures in active endorsement against having measures available for use if needed, the Steering Committee recommends the measure be endorsed and placed in reserve status.

Evaluation Summary—Candidate Consensus Standards Not Recommended for Endorsement

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

1480 Patient(s) 18 years of age and older on a beta-blocker 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 beta-blocker at admission or within seven days of discharge. Numerator Statement: Patient(s)who are taking a Beta-blocker 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 patient if the patient did not have pharmacy benefits throughout the CABG event 4. Exclude patients who had a contraindication to Beta-blockers or were taking Beta-blocker exclusion medications Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Can be measured, Clinicians: Group, Clinicians: Individual, Facility/ Agency, Health Plan, Integrated Delivery System, Multi-site/ corporate chain, Population: Counties or cities, Population : States, Program: Disease management, Program: QIO Type of Measure: Process

1480 Patient(s) 18 years of age and older on a beta-blocker at admission or within seven days of discharge of an isolated CABG procedure.
Data Source: Electronic administrative data/ claims, Pharmacy data Measure Steward: Ingenix | 12125 Technology Drive | Eden Prairie | Minnesota | 55344
Steering Committee Recommendation for Endorsement: No Rationale: Did not pass the threshold criterion of Importance to Measure and Report; thus, remaining criteria were not assessed.
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-6; N-15 (1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence) Rationale: The Committee identified a number of concerns about the measure. They primarily believed that the scope of the measure was limited by the fact that it provides information on a small subset of the population, since it includes only patients with insurance and does not include those with Medicare or Medicaid. The measure relies on pharmacy claims and provision of a prescription which patients may not fill within the seven days post-hospitalization.
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 Comment No comments were received.

0364 Incidental appendectomy in the elderly rate (IQI 24)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percent of elderly cases with intra-abdominal procedure with an incidental appendectomy. Numerator Statement: Number of incidental appendectomy procedures among cases meeting the inclusion and exclusion rules for the denominator. Denominator Statement: All discharges, age 65 years and older, with ICD-9-CM codes for abdominal and pelvic surgery. Exclusions: Exclude: - MDC 14 (pregnancy, childbirth, and puerperium) - cases with a code for surgical removal of the colon (colectomy) or pelvic evisceration - cases with any diagnosis of cancer involving or adjacent to the appendix Adjustment/Stratification: no risk adjustment necessary/User has the option to stratify by gender, age (5-year age groups), race / ethnicity, primary payer, or use custom stratifiers. Level of Analysis: Facility/ Agency Type of Measure: Process Data Source: Electronic administrative data/ claims Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850
Steering Committee Recommendation for Endorsement: No. Rationale: Did not pass threshold criterion of Importance to Measure and Report based on continued value and relevance; thus, remaining criteria were not assessed..
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-6; N-15 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The surgery now is rarely performed and while performing an appendectomy when it is not indicated has the potential to lead

0364 Incidental appendectomy in the elderly rate (IQI 24)
to problems of contaminating a clean abdominal surgery, the rate of performing the surgery is quite low. While the rate of incidental appendectomy is at 2 percent, the Committee clarified that its vote was related to relative lack of relevance and value.
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 Comment Commenters believed that this measure was a good overuse measure and cost reduction. The Committee noted that the surgery is rarely performed (2 percent) thus did not meet the criterion of importance based on value and relevance with respect to the impact and performance gap subcriteria. The cost of applying a measure that is relevant for such a small group of patients is potentially significant. The Committee did not change its recommendation.

1548 Surveillance after endovascular abdominal aortic aneurysm repair (EVAR)
For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of patients 18 years of age or older undergoing endovascular abdominal aortic aneurysm repair who have at least one follow-up imaging study after 3 months and within 15 mos of EVAR placement that documents aneurysm sac diameter and endoleak status. This measure is proposed for individual providers. Numerator Statement: Patients 18 years or older undergoing EVAR who have at least one follow-up CTA, duplex, or MRA of the abdomen and pelvis after 3 months but within 15 months of placement, assessing for sac size and endoleak Denominator Statement: Patients 18 years or older undergoing EVAR for abdominal aortic aneurysms excluding patients who died prior to follow-up within 15 months postoperatively. Exclusions: Death of patient as recorded in registry before follow-up imaging could be obtained during the first 15 months after EVAR. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE) registries record this information. Adjustment/Stratification: no risk adjustment necessary/No stratification is required for this measure. Level of Analysis: Can be measured at all levels; Clinicians: Individual; Clinicians: Group Type of Measure: Process Data Source: Registry data Measure Steward: Society for Vascular Surgery | 633 N. St. Clair, 22nd floor | Chicago | Illinois, 60611
Steering Committee Recommendation for Endorsement: Y-5; N-15; A-1 Rationale: While the measure highlights opportunities for improvement and the surveillance data could provide key information on the EVAR follow up, the reasons why surveillance is not completed are varied. As one example, patients may not report for follow up because of travel costs associated with returning for scans. The Committee expressed concern about the way the measure would be used and what its importance would be since there are many reasons (including socioeconomic) why patients do not have scans.
If applicable, Conditions/Questions for Developer: Developer Response: If applicable, Questions to the Steering Committee:
1. Importance to Measure and Report: Y-20; N-1 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The measure cited endograft surveillance performance rates from two major medical centers. One center had a 50 percent endograph surveillance rate, while the other had a performance rate of 75 percent. These statistics indicate an opportunity for improvement.
2. Scientific Acceptability of Measure Properties: C-3; P-15; 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: Concerns included the variety of reasons why a patient might not have follow up testing that cannot be differentiated by the

1548 Surveillance after endovascular abdominal aortic aneurysm repair (EVAR)
measure; controversy about best imaging strategy and the identified timeframe that will not capture all appropriately completed testing
3. Usability: C-3; P-15; M-3; N-0 *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale: The Committee was unclear about how the measure would be publicly reported and what unintended consequences could result given that the provider plan for follow up is subject to patient action, which can be influenced by a number of things including socioeconomic factors.
4. Feasibility: C-3; P-11; M-5; 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: The measure was considered feasible in that, while the measure uses registry data, it could be applied, outside the registry, using administrative data.
Public and Member Comment Commenters believed this measure was important to measure and report. The Steering Committee agreed that the measure focus is important but had significant concerns related to inability to discern reasons that follow up testing is not completed therefore it is not actionable as specified and, depending on how used/reported, could lead to unintended consequences. The committee encourages the developer to look to the potential of submitting a refined measure as part of PQRS to ease data capture. The Committee did not change its recommendation.

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) between 14 and 60 days after the procedure. Numerator Statement: Patients with documentation of a follow-up assessment between 14 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: Y-9; N-12; A-0 Rationale: Two issues were key: 1) there is little evidence that this process measure is strongly linked to improvement in outcome, and 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. 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.
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

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

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)*:

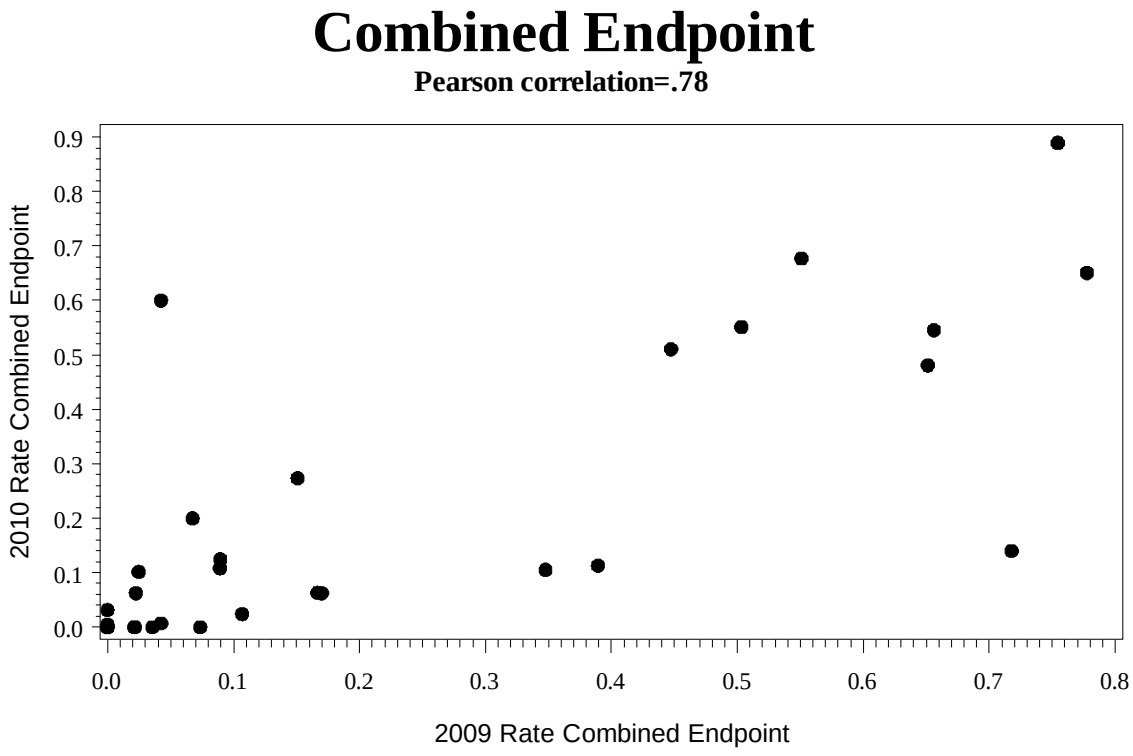
   Data were compared for 33 hospitals with 30 or more procedures for a 12 month period from January 2009 to December 2009 and from January 2010 and January 2010.

   2b.2 Analytic Method *(type of reliability & rationale, method for testing)*:

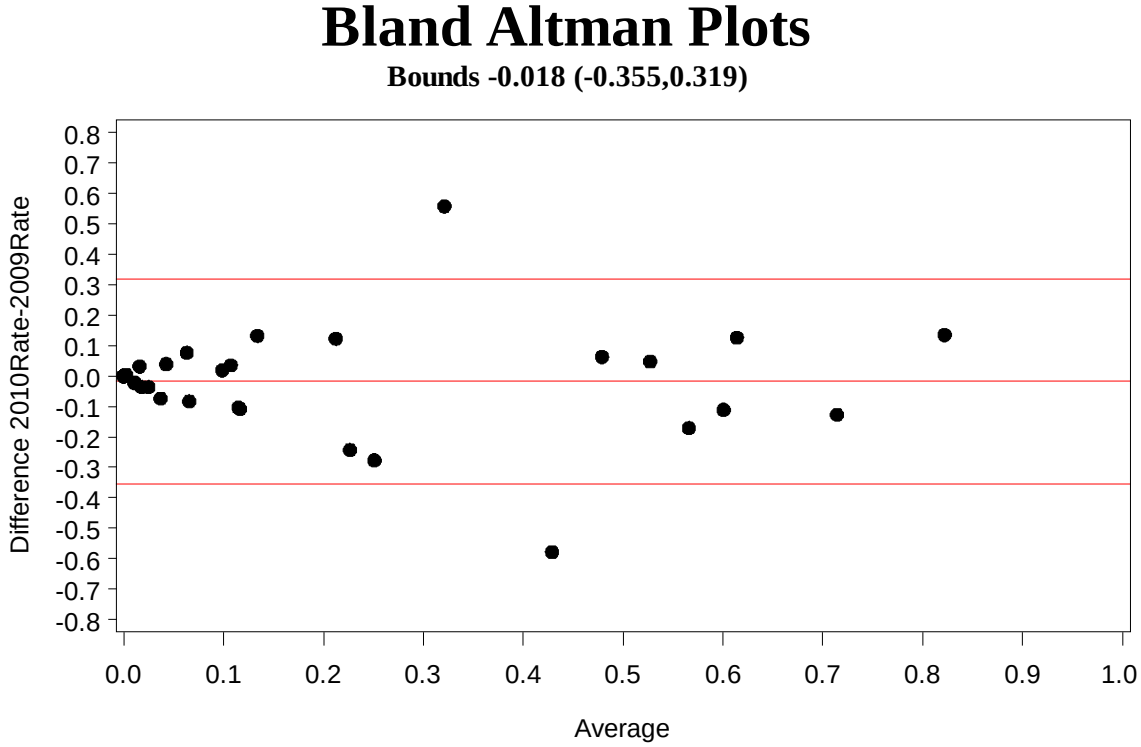
   Results were compared for two proximate time periods: January 2009 to December 2009 and from January 2010 to December 2010. Hospitals were excluded if they did not have data for both time periods, or if they did not perform 30 or more procedures during this time period. A simple scatter plot to assess 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.

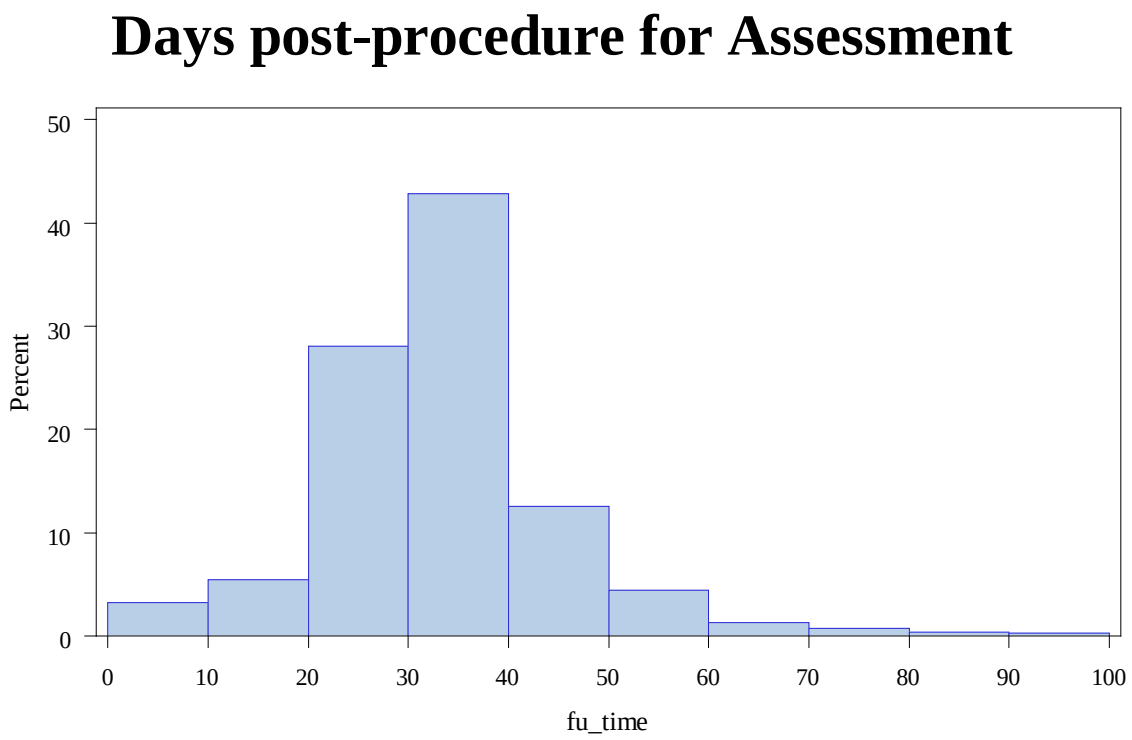


1531 Follow-up assessment of stroke or death after carotid revascularization



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 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).

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



1. Importance to Measure and Report: Y-13; N-8
(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: C-4; P-12; M-3; 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: The Steering Committee reviewed the requirement that the assessment be conducted by an independent examiner, but accepted 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.

3. Usability: C-3; P-11; M-5; N-2
(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)
Rationale: The Steering Committee stated that the measure would promote gathering standardized assessment information which could be used for quality improvement.

4. Feasibility: C-2; P-10; M-5; N-4
(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)
Rationale: The Steering Committee was concerned about the feasibility and burden of data collection on organizations.

Public and Member Comment

- Standardized data helpful in the decision-making process for both patients and physicians; and
- Improves outcomes for carotid revascularization

The Steering Committee determined that such a measure could encourage standardized neurologic assessment and strongly supports the concept underlying the measure. Its concerns are that a) there is little evidence that this process measure, as constructed, is strongly linked to improvement in outcome; b) data ascertainment may not be uniformly possible and c) baseline and post procedure testing given post-procedure assessment requirements may not be comparable. The committee encourages the developer to continue its effort to refine the measure for practical implementation, including submission for inclusion in PQRS, and bring the refined measure to NQF for endorsement. The Committee did not change its recommendation.

0367 Post operative wound dehiscence (PDI 11)

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

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

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

Denominator Statement: All abdominopelvic surgical discharges under age 18.

Exclusions: Exclude cases:

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

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

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

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

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

PDI 10 and PDI 11
Clinical Stratification Categories
Clinical Stratification
Surgical Class DRG
Admission Type
Strata 1. Clean Procedures Elective
1
Elective
Strata 2. Clean Procedures Non-Elective
1
Not Elective
Strata 3. Potentially Contaminated Elective
2, 3, or 9
Elective
Strata 4. Potentially Contaminated Non-Elective
2, 3, or 9
Not Elective
Surgical Class 1 DRGs
For discharges using DRGs (before October 1, 2007)
DRG - TITLE
003 - CRANIOTOMY AGE 0-17
006 - CARPAL TUNNEL RELEASE
007 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W CC
008 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W/O CC

0367 Post operative wound dehiscence (PDI 11)
036 - RETINAL PROCEDURES
037 - ORBITAL PROCEDURES
038 - PRIMARY IRIS PROCEDURES
039 - LENS PROCEDURES WITH OR WITHOUT VITRECTOMY
041 - EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17
042 - INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS
049 - MAJOR HEAD & NECK PROCEDURES
050 - SIALOADENECTOMY
DRG - TITLE
051 - SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY
052 - CLEFT LIP & PALATE REPAIR
054 - SINUS & MASTOID PROCEDURES AGE 0-17
055 - MISCELLANEOUS EAR, NOSE, MOUTH & THROAT PROCEDURES
056 - RHINOPLASTY
058 - T&A PROC, EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17
060 - TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17
062 - MYRINGOTOMY W TUBE INSERTION AGE 0-17
063 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES
DRG - TITLE
103 - HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM
104 - CARDIAC VALVE & OTH MAJOR CARDIOTHORACIC PROC W CARD CATH
105 - CARDIAC VALVE & OTH MAJOR CARDIOTHORACIC PROC W/O CARD CATH
106 - CORONARY BYPASS W PTCA
108 - OTHER CARDIOTHORACIC PROCEDURES
110 - MAJOR CARDIOVASCULAR PROCEDURES W CC
111 - MAJOR CARDIOVASCULAR PROCEDURES W/O CC
113 - AMPUTATION FOR CIRC SYSTEM DISORDERS EXCEPT UPPER LIMB & TOE
114 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS
117 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT
118 - CARDIAC PACEMAKER DEVICE REPLACEMENT
119 - VEIN LIGATION & STRIPPING
120 - OTHER CIRCULATORY SYSTEM O.R. PROCEDURES
163 - HERNIA PROCEDURES AGE 0-17
168 - MOUTH PROCEDURES W CC
169 - MOUTH PROCEDURES W/O CC
212 - HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17
213 - AMPUTATION FOR MUSCULOSKELETAL SYSTEM & CONN TISSUE DISORDERS
216 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE
217 - WND DEBRID & SKN GRFT EXCEPT HAND,FOR MUSCSKELET & CONN TISS DIS
220 - LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR AGE 0-17
223 - MAJOR SHOULDER/ELBOW PROC, OR OTHER UPPER EXTREMITY PROC W CC
224 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC, W/O CC
225 - FOOT PROCEDURES
226 - SOFT TISSUE PROCEDURES W CC
227 -SOFT TISSUE PROCEDURES W/O CC
228 - MAJOR THUMB OR JOINT PROC,OR OTH HAND OR WRIST PROC W CC
229 - HAND OR WRIST PROC, EXCEPT MAJOR JOINT PROC, W/O CC
230 - LOCAL EXCISION & REMOVAL OF INT FIX DEVICES OF HIP & FEMUR
232 - ARTHROSCOPY
233 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W CC
DRG - TITLE
234 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W/O CC
257 - TOTAL MASTECTOMY FOR MALIGNANCY W CC
258 - TOTAL MASTECTOMY FOR MALIGNANCY W/O CC
259 - SUBTOTAL MASTECTOMY FOR MALIGNANCY W CC

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

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

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215 - OTHER HEART ASSIST SYSTEM IMPLANT
216 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W MCC
217 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W CC
218 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W/O CC/MCC
219 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W MCC
220 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W CC
221 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W/O CC/MCC
222 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W MCC
223 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W/O MCC
224 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W MCC
225 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W/O MCC
MS-DRG - TITLE
226 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W MCC
227 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W/O MCC
228 - OTHER CARDIOTHORACIC PROCEDURES W MCC
229 - OTHER CARDIOTHORACIC PROCEDURES W CC
230 - OTHER CARDIOTHORACIC PROCEDURES W/O CC/MCC
231 - CORONARY BYPASS W PTCA W MCC
232 - CORONARY BYPASS W PTCA W/O MCC
233 - CORONARY BYPASS W CARDIAC CATH W MCC
234 - CORONARY BYPASS W CARDIAC CATH W/O MCC
235 - CORONARY BYPASS W/O CARDIAC CATH W MCC
236 - CORONARY BYPASS W/O CARDIAC CATH W/O MCC
237 - MAJOR CARDIOVASC PROCEDURES W MCC OR THORACIC AORTIC ANUERYSM REPAIR
238 - MAJOR CARDIOVASCULAR PROCEDURES W/O MCC
239 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W MCC
240 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W CC
241 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W/O CC/MCC
242 - PERMANENT CARDIAC PACEMAKER IMPLANT W MCC
243 - PERMANENT CARDIAC PACEMAKER IMPLANT W CC
244 - PERMANENT CARDIAC PACEMAKER IMPLANT W/O CC/MCC
245 - AICD LEAD & GENERATOR PROCEDURES
246 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W MCC OR 4+ VESSELS/STENTS
247 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC
248 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W MCC OR 4+ VES/STENTS
249 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MCC
250 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W MCC
251 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W/O MCC
252 - OTHER VASCULAR PROCEDURES W MCC
DRG - TITLE
518 - PERC CARDIO PROC W/O CORONARY ARTERY STENT OR AMI
519 - CERVICAL SPINAL FUSION W CC
520 - CERVICAL SPINAL FUSION W/O CC
525 - OTHER HEART ASSIST SYSTEM IMPLANT
528 - INTRACRANIAL VASCULAR PROC W PDX HEMORRHAGE
529 - VENTRICULAR SHUNT PROCEDURES W CC
530 - VENTRICULAR SHUNT PROCEDURES W/O CC
531 - SPINAL PROCEDURES W CC
532 - SPINAL PROCEDURES W/O CC
533 - EXTRACRANIAL PROCEDURES W CC
534 - EXTRACRANIAL PROCEDURES W/O CC
535 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK
536 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK
537 - LOCAL EXCIS & REMOV OF INT FIX DEV EXCEPT HIP & FEMUR W CC
538 - LOCAL EXCIS & REMOV OF INT FIX DEV EXCEPT HIP & FEMUR W/O CC

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543 - CRANIOTOMY W MAJOR DEVICE IMPLANT OR ACUTE COMPLEX CNS PRINCIPAL DIAGNOSIS
544 - MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY
545 - REVISION OF HIP OR KNEE REPLACEMENT
DRG - TITLE
546 - SPINAL FUSION EXC CERV WITH CURVATURE OF THE SPINE OR MALIG
547 - CORONARY BYPASS W CARDIAC CATH W MAJOR CV DX
548 - CORONARY BYPASS W CARDIAC CATH W/O MAJOR CV DX
549 - CORONARY BYPASS W/O CARDIAC CATH W MAJOR CV DX
550 - CORONARY BYPASS W/O CARDIAC CATH W/O MAJOR CV DX
551 - PERMANENT CARDIAC PACEMAKER IMPL W MAJ CV DX OR AICD LEAD OR GNRTR
552 - OTHER PERMANENT CARDIAC PACEMAKER IMPLANT W/O MAJOR CV DX
553 - OTHER VASCULAR PROCEDURES W CC W MAJOR CV DX
554 - OTHER VASCULAR PROCEDURES W CC W/O MAJOR CV DX
555 - PERCUTANEOUS CARDIOVASCULAR PROC W MAJOR CV DX
556 - PERCUTANEOUS CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MAJ CV DX
557 - PERCUTANEOUS CARDIOVASCULAR PROC W DRUG-ELUTING STENT W MAJOR CV DX
558 - PERCUTANEOUS CARDIOVASCULAR PROC W DRUG-ELUTING STENT W/O MAJ CV DX
577 - CAROTID ARTERY STENT PROCEDURE
Surgical Class 1 MS-DRGs
For discharges using MS-DRGs (on or after October 1, 2007)
MS-DRG - TITLE
001 - HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W MCC
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021 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W CC
022 - INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W/O CC/MCC
023 - CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W MCC OR CHEMO IMPLANT
024 - CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W/O MCC
027 - CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES W/O
MS-DRG - TITLE
CC/MCC
028 - SPINAL PROCEDURES W MCC
029 - SPINAL PROCEDURES W CC OR SPINAL NEUROSTIMULATORS
030 - SPINAL PROCEDURES W/O CC/MCC
031 - VENTRICULAR SHUNT PROCEDURES W MCC
032 - VENTRICULAR SHUNT PROCEDURES W CC
033 - VENTRICULAR SHUNT PROCEDURES W/O CC/MCC
034 - CAROTID ARTERY STENT PROCEDURE W MCC
035 - CAROTID ARTERY STENT PROCEDURE W CC
036 - CAROTID ARTERY STENT PROCEDURE W/O CC/MCC
037 - EXTRACRANIAL PROCEDURES W MCC
038 - EXTRACRANIAL PROCEDURES W CC
039 - EXTRACRANIAL PROCEDURES W/O CC/MCC
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MS-DRG - TITLE
040 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W MCC
041 - PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC W CC OR PERIPH NEUROSTIM
042 - PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W/O CC/MCC
113 - ORBITAL PROCEDURES W CC/MCC
114 - ORBITAL PROCEDURES W/O CC/MCC
115 - EXTRAOCULAR PROCEDURES EXCEPT ORBIT
116 - INTRAOCULAR PROCEDURES W CC/MCC

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117 - INTRAOCULAR PROCEDURES W/O CC/MCC
129 - MAJOR HEAD & NECK PROCEDURES W CC/MCC OR MAJOR DEVICE
130 - MAJOR HEAD & NECK PROCEDURES W/O CC/MCC
131 - CRANIAL/FACIAL PROCEDURES W CC/MCC
132 - CRANIAL/FACIAL PROCEDURES W/O CC/MCC
133 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W CC/MCC
134 - OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W/O CC/MCC
136 - SINUS & MASTOID PROCEDURES W/O CC/MCC
137 - MOUTH PROCEDURES W CC/MCC
138 - MOUTH PROCEDURES W/O CC/MCC
139 - SALIVARY GLAND PROCEDURES
215 - OTHER HEART ASSIST SYSTEM IMPLANT
216 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W MCC
217 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W CC
218 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W/O CC/MCC
219 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W MCC
220 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W CC
221 - CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W/O CC/MCC
222 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W MCC
223 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W/O MCC
224 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W MCC
225 - CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W/O MCC
MS-DRG - TITLE
226 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W MCC
227 - CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W/O MCC
228 - OTHER CARDIOTHORACIC PROCEDURES W MCC
229 - OTHER CARDIOTHORACIC PROCEDURES W CC
230 - OTHER CARDIOTHORACIC PROCEDURES W/O CC/MCC
231 - CORONARY BYPASS W PTCA W MCC
232 - CORONARY BYPASS W PTCA W/O MCC
233 - CORONARY BYPASS W CARDIAC CATH W MCC
234 - CORONARY BYPASS W CARDIAC CATH W/O MCC
235 - CORONARY BYPASS W/O CARDIAC CATH W MCC
236 - CORONARY BYPASS W/O CARDIAC CATH W/O MCC
237 - MAJOR CARDIOVASC PROCEDURES W MCC OR THORACIC AORTIC ANUERYSM REPAIR
238 - MAJOR CARDIOVASCULAR PROCEDURES W/O MCC
239 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W MCC
240 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W CC
241 - AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W/O CC/MCC
242 - PERMANENT CARDIAC PACEMAKER IMPLANT W MCC
243 - PERMANENT CARDIAC PACEMAKER IMPLANT W CC
244 - PERMANENT CARDIAC PACEMAKER IMPLANT W/O CC/MCC
245 - AICD LEAD & GENERATOR PROCEDURES
246 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W MCC OR 4+ VESSELS/STENTS
247 - PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC
248 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W MCC OR 4+ VES/STENTS
249 - PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MCC
250 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W MCC
251 - PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT OR AMI W/O MCC
252 - OTHER VASCULAR PROCEDURES W MCC
MS-DRG - TITLE
253 - OTHER VASCULAR PROCEDURES W CC
254 - OTHER VASCULAR PROCEDURES W/O CC/MCC
255 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W MCC
256 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W CC

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257 - UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W/O CC/MCC
258 - CARDIAC PACEMAKER DEVICE REPLACEMENT W MCC
259 - CARDIAC PACEMAKER DEVICE REPLACEMENT W/O MCC
260 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W MCC
261 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W CC
262 - CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W/O CC/MCC
263 - VEIN LIGATION & STRIPPING
264 - OTHER CIRCULATORY SYSTEM O.R. PROCEDURES
352 - INGUINAL & FEMORAL HERNIA PROCEDURES W/O CC/MCC
453 - COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W MCC
454 - COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W CC
455 - COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W/O CC/MCC
456 - SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR 9+ FUS W MCC
457 - SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR 9+ FUS W CC
458 - SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR 9+ FUS W/O CC/MCC
459 - SPINAL FUSION EXCEPT CERVICAL W MCC
460 - SPINAL FUSION EXCEPT CERVICAL W/O MCC
461 - BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY W MCC
462 - BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY W/O MCC
463 - WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W MCC
464 - WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W CC
465 - WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W/O CC/MCC
466 - REVISION OF HIP OR KNEE REPLACEMENT W MCC
467 - REVISION OF HIP OR KNEE REPLACEMENT W CC
468 - REVISION OF HIP OR KNEE
MS-DRG - TITLE
REPLACEMENT W/O CC/MCC
469 - MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W MCC
470 - MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W/O MCC
471 - CERVICAL SPINAL FUSION W MCC
472 - CERVICAL SPINAL FUSION W CC
473 - CERVICAL SPINAL FUSION W/O CC/MCC
474 - AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W MCC
475 - AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W CC
476 - AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W/O CC/MCC
477 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W MCC
478 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W CC
479 - BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W/O CC/MCC
482 - HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT W/O CC/MCC
483 - MAJOR JOINT & LIMB REATTACHMENT PROC OF UPPER EXTREMITY W CC/MCC
484 - MAJOR JOINT & LIMB REATTACHMENT PROC OF UPPER EXTREMITY W/O CC/MCC
485 - KNEE PROCEDURES W PDX OF INFECTION W MCC
486 - KNEE PROCEDURES W PDX OF INFECTION W CC
487 - KNEE PROCEDURES W PDX OF INFECTION W/O CC/MCC
488 - KNEE PROCEDURES W/O PDX OF INFECTION W CC/MCC
489 - KNEE PROCEDURES W/O PDX OF INFECTION W/O CC/MCC
490 - BACK & NECK PROC EXC SPINAL FUSION W CC/MCC OR DISC DEVICE/NEUROSTIM
491 - BACK & NECK PROC EXC SPINAL FUSION W/O CC/MCC
494 - LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR W/O CC/MCC
495 - LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W MCC
496 - LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W CC
497 - LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W/O CC/MCC
498 - LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR W CC/MCC
499 - LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR W/O CC/MCC
500 - SOFT TISSUE PROCEDURES W MCC

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MS-DRG - TITLE
501 - SOFT TISSUE PROCEDURES W CC
502 - SOFT TISSUE PROCEDURES W/O CC/MCC
503 - FOOT PROCEDURES W MCC
504 - FOOT PROCEDURES W CC
505 - FOOT PROCEDURES W/O CC/MCC
506 - MAJOR THUMB OR JOINT PROCEDURES
507 - MAJOR SHOULDER OR ELBOW JOINT PROCEDURES W CC/MCC
508 - MAJOR SHOULDER OR ELBOW JOINT PROCEDURES W/O CC/MCC
509 - ARTHROSCOPY
510 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W MCC
511 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W CC
512 - SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W/O CC/MCC
513 - HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC W CC/MCC
514 - HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC W/O CC/MCC
515 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W MCC
516 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W CC
517 - OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W/O CC/MCC
582 - MASTECTOMY FOR MALIGNANCY W CC/MCC
583 - MASTECTOMY FOR MALIGNANCY W/O CC/MCC
584 - BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES W CC/MCC
585 - BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES W/O CC/MCC
614 - ADRENAL & PITUITARY PROCEDURES
MS-DRG - TITLE
W CC/MCC
615 - ADRENAL & PITUITARY PROCEDURES W/O CC/MCC
616 - AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W MCC
617 - AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W CC
618 - AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W/O CC/MCC
622 - SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W MCC
623 - SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W CC
624 - SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W/O CC/MCC
625 - THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W MCC
626 - THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W CC
627 - THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W/O CC/MCC
628 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W MCC
629 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W CC
630 - OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W/O CC/MCC
711 - TESTES PROCEDURES W CC/MCC
712 - TESTES PROCEDURES W/O CC/MCC
800 - SPLENECTOMY W CC
801 - SPLENECTOMY W/O CC/MCC
802 - OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W MCC
803 - OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W CC
804 - OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W/O CC/MCC
Surgical Class 2 DRGs
For discharges using DRGs (before October 1, 2007)
DRG - TITLE
075 - MAJOR CHEST PROCEDURES
076 - OTHER RESP SYSTEM O.R. PROCEDURES W CC
077 - OTHER RESP SYSTEM O.R. PROCEDURES W/O CC
146 - RECTAL RESECTION W CC

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147 - RECTAL RESECTION W/O CC
149 - MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC
150 - PERITONEAL ADHESIOLYSIS W CC
151 - PERITONEAL ADHESIOLYSIS W/O CC
DRG - TITLE
152 - MINOR SMALL & LARGE BOWEL PROCEDURES W CC
153 - MINOR SMALL & LARGE BOWEL PROCEDURES W/O CC
156 - STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE 0-17
157 - ANAL & STOMAL PROCEDURES W CC
158 - ANAL & STOMAL PROCEDURES W/O CC
166 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W CC
DRG - TITLE
167 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W/O CC
170 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W CC
171 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W/O CC
191 - PANCREAS, LIVER & SHUNT PROCEDURES W CC
192 - PANCREAS, LIVER & SHUNT PROCEDURES W/O CC
193 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W CC
194 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W/O CC
195 - CHOLECYSTECTOMY W C.D.E. W CC
196 - CHOLECYSTECTOMY W C.D.E. W/O CC
197 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W CC
198 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W/O CC
199 - HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY
200 - HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY
201 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES
265 - SKIN GRAFT &/OR DEBRID EXCEPT FOR SKIN ULCER OR CELLULITIS W CC
266 - SKIN GRAFT &/OR DEBRID EXCEPT FOR SKIN ULCER OR CELLULITIS W/O CC
267 - PERIANAL & PILONIDAL PROCEDURES
268 - SKIN, SUBCUTANEOUS TISSUE & BREAST PLASTIC PROCEDURES
269 - OTHER SKIN, SUBCUT TISS & BREAST PROC W CC
270 - OTHER SKIN, SUBCUT TISS & BREAST PROC W/O CC
288 - O.R. PROCEDURES FOR OBESITY
302 - KIDNEY TRANSPLANT
303 - KIDNEY AND URETER PROCEDURES FOR NEOPLASM
304 - KIDNEY AND URETER PROCEDURES FOR NON-NEOPLASM WITHOUT CC
305 - KIDNEY AND URETER PROCEDURES FOR NON-NEOPLASM WITHOUT CC
306 - PROSTATECTOMY W CC
307 - PROSTATECTOMY W/O CC
308 - MINOR BLADDER PROCEDURES W CC
309 - MINOR BLADDER PROCEDURES W/O CC
310 - TRANSURETHRAL PROCEDURES W CC
311 - TRANSURETHRAL PROCEDURES W/O CC
314 - URETHRAL PROCEDURES, AGE 0-17
315 - OTHER KIDNEY & URINARY TRACT O.R. PROCEDURES
334 - MAJOR MALE PELVIC PROCEDURES W CC
335 - MAJOR MALE PELVIC PROCEDURES W/O CC
336 - TRANSURETHRAL PROSTATECTOMY W CC
DRG - TITLE
337 - TRANSURETHRAL PROSTATECTOMY W/O CC
341 - PENIS PROCEDURES
343 - CIRCUMCISION AGE 0-17
344 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY
345 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT FOR MALIGNANCY
353 - PELVIC EVISCERATION, RADICAL HYSTERECTOMY & RADICAL VULVECTOMY

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354 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W CC
355 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W/O CC
356 - FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES
357 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY
358 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W CC
359 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W/O CC
360 - VAGINA, CERVIX & VULVA PROCEDURES
361 - LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION
362 - ENDOSCOPIC TUBAL INTERRUPTION
363 - D&C, CONIZATION & RADIO-IMPLANT, FOR MALIGNANCY
364 - D&C, CONIZATION EXCEPT FOR MALIGNANCY
365 - OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES
370 - CESAREAN SECTION W CC
371 - CESAREAN SECTION W/O CC
372 - VAGINAL DELIVERY W COMPLICATING DIAGNOSES
373 - VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES
374 - VAGINAL DELIVERY W STERILIZATION &/OR D&C
375 - VAGINAL DELIVERY W O.R. PROC EXCEPT STERIL &/OR D&C
377 - POSTPARTUM & POST ABORTION DIAGNOSES W O.R. PROCEDURE
381 - ABORTION W D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY
468 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS
476 - PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS
477 - NON-EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS
480 - LIVER TRANSPLANT AND/OR INTESTINAL TRANSPLANT
482 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES
493 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W CC
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DRG - TITLE
494 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC
495 - LUNG TRANSPLANT
512 - SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT
513 - PANCREAS TRANSPLANT
541 - ECMO OR TRACH W MV 96+HRS OR PDX EXC FACE, MOUTH & NECK W MAJ O.R.
DRG - TITLE
542 - TRACH W MV 96+HRS OR PDX EXC FACE, MOUTH & NECK W/O MAJ O.R.
559 - ACUTE ISCHEMIC STROKE WITH USE OF THROMBOLYTIC AGENT
569 - MAJOR SMALL & LARGE BOWEL PROCEDURES W CC W MAJOR GI DX
570 - MAJOR SMALL & LARGE BOWEL PROCEDURES W CC W/O MAJOR GI DX
573 - MAJOR BLADDER PROCEDURES
Surgical Class 2 MS-DRGs
For discharges using MS-DRGs (on or after October 1, 2007)
MS-DRG - TITLE
003 - ECMO OR TRACH W MV 96+ HRS OR PDX EXC FACE, MOUTH & NECK W MAJ O.R.
004 - TRACH W MV 96+ HRS OR PDX EXC FACE, MOUTH & NECK W/O MAJ O.R.
005 - LIVER TRANSPLANT W MCC OR INTESTINAL TRANSPLANT
006 - LIVER TRANSPLANT W/O MCC
007 - LUNG TRANSPLANT
008 - SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT
010 - PANCREAS TRANSPLANT
011 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W MCC
012 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W CC
013 - TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W/O CC/MCC
061 - ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W MCC

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062 - ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W CC
063 - ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/O CC/MCC
163 - MAJOR CHEST PROCEDURES W MCC
164 - MAJOR CHEST PROCEDURES W CC
165 - MAJOR CHEST PROCEDURES W/O CC/MCC
166 - OTHER RESP SYSTEM O.R. PROCEDURES W MCC
167 - OTHER RESP SYSTEM O.R. PROCEDURES W CC
168 - OTHER RESP SYSTEM O.R. PROCEDURES W/O CC/MCC
327 - STOMACH, ESOPHAGEAL & DUODENAL PROC W CC
329 - MAJOR SMALL & LARGE BOWEL PROCEDURES W MCC
330 - MAJOR SMALL & LARGE BOWEL PROCEDURES W CC
331 - MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC/MCC
332 - RECTAL RESECTION W MCC
333 - RECTAL RESECTION W CC
334 - RECTAL RESECTION W/O CC/MCC
MS-DRG - TITLE
335 - PERITONEAL ADHESIOLYSIS W MCC
336
PERITONEAL ADHESIOLYSIS W CC
337 - PERITONEAL ADHESIOLYSIS W/O CC/MCC
341 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W MCC
342 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W CC
343 - APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W/O CC/MCC
344 - MINOR SMALL & LARGE BOWEL PROCEDURES W MCC
345 - MINOR SMALL & LARGE BOWEL PROCEDURES W CC
346 - MINOR SMALL & LARGE BOWEL PROCEDURES W/O CC/MCC
347 - ANAL & STOMAL PROCEDURES W MCC
348 - ANAL & STOMAL PROCEDURES W CC
349 - ANAL & STOMAL PROCEDURES W/O CC/MCC
356 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W MCC
357 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W CC
358 - OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W/O CC/MCC
405 - PANCREAS, LIVER & SHUNT PROCEDURES W MCC
406 - PANCREAS, LIVER & SHUNT PROCEDURES W CC
407 - PANCREAS, LIVER & SHUNT PROCEDURES W/O CC/MCC
408 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W MCC
409 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W CC
410 - BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W/O CC/MCC
411 - CHOLECYSTECTOMY W C.D.E. W MCC
412 - CHOLECYSTECTOMY W C.D.E. W CC
413 - CHOLECYSTECTOMY W C.D.E. W/O CC/MCC
414 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W MCC
MS-DRG - TITLE
415 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W CC
416 - CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W/O CC/MCC
417 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W MCC
418 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W CC
419 - LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC/MCC
420 - HEPATOBILIARY DIAGNOSTIC PROCEDURES W MCC
421 - HEPATOBILIARY DIAGNOSTIC PROCEDURES W CC
422 - HEPATOBILIARY DIAGNOSTIC PROCEDURES W/O CC/MCC
423 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W MCC
424 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W CC
425 - OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W/O CC/MCC
576 - SKIN GRAFT &/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS W MCC

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577 - SKIN GRAFT &/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS W CC
578 - SKIN GRAFT &/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS W/O CC/MCC
579 - OTHER SKIN, SUBCUT TISS & BREAST PROC W MCC
580 - OTHER SKIN, SUBCUT TISS & BREAST PROC W CC
581 - OTHER SKIN, SUBCUT TISS & BREAST PROC W/O CC/MCC
619 - O.R. PROCEDURES FOR OBESITY W MCC
620 - O.R. PROCEDURES FOR OBESITY W CC
621 - O.R. PROCEDURES FOR OBESITY W/O CC/MCC
652 - KIDNEY TRANSPLANT
653 - MAJOR BLADDER PROCEDURES W MCC
654 - MAJOR BLADDER PROCEDURES W CC
655 - MAJOR BLADDER PROCEDURES W/O CC/MCC
656 - KIDNEY & URETER PROCEDURES FOR NEOPLASM W MCC
657 - KIDNEY & URETER PROCEDURES FORNEOPLASM W CC
658 - KIDNEY & URETER PROCEDURES FOR NEOPLASM W/O CC/MCC
659 - KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W MCC
660 - KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W CC
661 - KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W/O CC/MCC
662 - MINOR BLADDER PROCEDURES W MCC
663 - MINOR BLADDER PROCEDURES W CC
MS-DRG - TITLE
664 - MINOR BLADDER PROCEDURES W/O CC/MCC
665 - PROSTATECTOMY W MCC
666 - PROSTATECTOMY W CC
667 - PROSTATECTOMY W/O CC/MCC
668 - TRANSURETHRAL PROCEDURES W MCC
669 - TRANSURETHRAL PROCEDURES W CC
670 - TRANSURETHRAL PROCEDURES W/O CC/MCC
672 - URETHRAL PROCEDURES W/O CC/MCC
673 - OTHER KIDNEY & URINARY TRACT PROCEDURES W MCC
674 - OTHER KIDNEY & URINARY TRACT PROCEDURES W CC
675 - OTHER KIDNEY & URINARY TRACT PROCEDURES W/O CC/MCC
707 - MAJOR MALE PELVIC PROCEDURES W CC/MCC
708 - MAJOR MALE PELVIC PROCEDURES W/O CC/MCC
709 - PENIS PROCEDURES W CC/MCC
710 - PENIS PROCEDURES W/O CC/MCC
713 - TRANSURETHRAL PROSTATECTOMY W CC/MCC
714 - TRANSURETHRAL PROSTATECTOMY W/O CC/MCC
715 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY W CC/MCC
716 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY W/O CC/MCC
717 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY W CC/MCC
718 - OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY W/O CC/MCC
734 - PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY W CC/MCC
735 - PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY W/O CC/MCC
736 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W MCC
737 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W CC
738 - UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W/O CC/MCC
739 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W MCC
740 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W CC
741 - UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W/O CC/MCC
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MS-DRG - TITLE
742 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W CC/MCC

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743 - UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W/O CC/MCC
744 - D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION W CC/MCC
745 - D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION W/O CC/MCC
746 - VAGINA, CERVIX & VULVA PROCEDURES W CC/MCC
747 - VAGINA, CERVIX & VULVA PROCEDURES W/O CC/MCC
748 - FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES
749 - OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES W CC/MCC
750 - OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES W/O CC/MCC
765 - CESAREAN SECTION W CC/MCC
766 - CESAREAN SECTION W/O CC/MCC
767 - VAGINAL DELIVERY W STERILIZATION &/OR D&C
768 - VAGINAL DELIVERY W O.R. PROC EXCEPT STERIL &/OR D&C
769 - POSTPARTUM & POST ABORTION DIAGNOSES W O.R. PROCEDURE
770 - ABORTION W D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY
774 - VAGINAL DELIVERY W COMPLICATING DIAGNOSES
MS-DRG - TITLE
775 - VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES
981 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W MCC
982 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W CC
983 - EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC
984 - PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W MCC
985
PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W CC
986
PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC
987 - NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W MCC
988 - NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W CC
989 - NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC
Surgical Class 3 DRGs
For discharges using DRGs (before October 1, 2007)
DRG - TITLE
263 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W CC
264 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W/O CC
439 - SKIN GRAFTS FOR INJURIES
440 - WOUND DEBRIDEMENTS FOR INJURIES
441 - HAND PROCEDURES FOR INJURIES
442 - OTHER O.R. PROCEDURES FOR INJURIES W CC
443 - OTHER O.R. PROCEDURES FOR INJURIES W/O CC
484 - CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA
DRG - TITLE
485 - LIMB REATTACHMENT, HIP AND FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA
486 - OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA
504 - EXTEN. BURNS OR FULL THICKNESS BURN W/MV 96+HRS W/SKIN GFT
506 - FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ W CC OR SIG TRAUMA
507 - FULL THICKNESS BURN W SKIN GRFT OR INHAL INJ W/O CC OR SIG TRAUMA
Surgical Class 3 MS-DRGs
For discharges using MS-DRGs (on or after October 1, 2007)
MS-DRG - TITLE
573 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W MCC
MS-DRG - TITLE
574 - SKIN GRAFT &/OR DEBRID FOR SKN ULCER OR CELLULITIS W CC
Level of Analysis: Facility/ Agency
Type of Measure: Outcome
Data Source: Electronic administrative data/ claims
Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

0367 Post operative wound dehiscence (PDI 11)
Steering Committee Recommendation for Endorsement: No. Rationale: Did not pass threshold criterion of Importance to Measure and Report; thus, not assessed against remaining criteria.
Steering Committee Follow-Up: The measure developer requested that the Steering Committee reconsider its recommendation related to endorsement of measures 0367 and 0368. The Steering Committee re-examined the evidence cited and the clarification offered by the measure developer. Members continued to register concern about: 1) the low rate of wound dehiscence, which has remained stable over a long period; 2) evidence (Hannan, et al. *A methodololgy for targeting hospital cases for quality of care record reviews*, 1989.) that points to dehiscence for which the fundamental problem is infection; 3) the lack of a standard of care for wound dehiscence prevention or contributing risk factors; and 4) that the rate cannot be reduced due to lack of non-patient specific factors that can be influenced. The overriding concern was that the measure does not provide clinically meaningful, actionable data.
1. Importance to Measure and Report: Y-4; N-17 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee noted that only about 25 percent of wound dehiscence has been demonstrated to have modifiable factors. Twenty-five percent of wound dehiscence is not preventable and the cause in another 41 percent is uncertain; thus, the rationale for the measure is not supported by the literature. Also, members were concerned that the evidence for the measure appeared to be based on an analysis of patients with a secondary diagnosis code for "other than wound disruptions". The Committee noted that the disparity data could be improved. Finally, they stated that the evidence does not indicate that wound dehiscence is a problem specifically in children and only a small number of patients experience wound dehiscence.
2. Scientific Acceptability of Measure Properties: *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale:
3. Usability: *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale:
4. Feasibility: *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale:
Public and Member Comment Commenters believed that this measure would provide an impact on the quality of care. The Committee felt that while the occurrence of wound dehiscence is concerning; however, the measures, as constructed, did not pass the criterion of importance and does not provide actionable data. This is based on the low rate of dehiscence that has remained stable over a period of time during which the measures have been in use; cited evidence that the underlying problem is infection; lack of a standard of care for prevention; and inability to reduce the rate due to lack of non-patient specific factors that can be influenced. The Committee did not change its recommendation.

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For More Information: Complete Measure Submission; Meeting/Call Proceedings
Description: Percentage of abdominopelvic surgery cases with reclosure of postoperative disruption of abdominal wall. Numerator Statement: Discharges among cases meeting the inclusion and exclusion rules for the denominator with ICD-9-CM procuedure code for reclosure of postoperative disruption of abdominal wall procedure. Denominator Statement: All abdominopelvic surgical discharges age 18 and older. Exclusions: Exclude cases: • where a procedure for reclosure of postoperative disruption of abdominal wall occurs before or on the same day as the first abdominopelvic surgery procedure Note: If day of procedure is not available in the input data file, the rate may be slightly lower than if the information was available • where length of stay is less than 2 days • with any diagnosis or procedure code for immunocompromised state • MDC 14 (pregnancy, childbirth, and puerperium). Adjustment/Stratification: risk adjustment method widely or commercially available The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, birth weight (500g groups), age in days (29-60, 61-90, 91+), age in years (in 5-year age groups), modified CMS DRG and AHRQ CCS comorbidities. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the

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year 2007 (updated annually), a database consisting of 43 states and approximately 6 million pediatric discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate. Required data elements: CMS Diagnosis Related Group (DRG); CMS Major Diagnostic Category (MDC); patient gender; age in years at admission; International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) principal and secondary diagnosis codes/The user has the option to stratify by gender, birth weight, age in days, age in years (5-year age groups), race / ethnicity, primary payer, and custom stratifiers. Level of Analysis: Facility/ Agency Type of Measure: Outcome Data Source: Electronic administrative data/ claims Measure Steward: Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850
Steering Committee Recommendation for Endorsement: No. Rationale: Did not pass threshold criterion of Importance to Measure and Report; thus, not assessed against remaining criteria.
Steering Committee Follow-Up: The measure developer requested that the Steering Committee reconsider its recommendation related to endorsement of measures 0367 and 0368. The Steering Committee re-examined the evidence cited and the clarification offered by the measure developer. Members continued to register concern about: 1) the low rate of wound dehiscence, which has remained stable over a long period; 2) evidence (Hannan, et al. *A methodology for targeting hospital cases for quality of care record reviews*, 1989.) that points to dehiscence for which the fundamental problem is infection; 3) the lack of a standard of care for wound dehiscence prevention or contributing risk factors; and 4) that the rate cannot be reduced due to lack of non-patient specific factors that can be influenced. The overriding concern was that the measure does not provide clinically meaningful, actionable data.
1. Importance to Measure and Report: Y-3; N-18 *(1a. Impact; 1b. Performance gap; 1c. Outcome or Evidence)* Rationale: The Committee noted that only about 25 percent of wound dehiscence has been demonstrated to have modifiable factors. Twenty-five percent of wound dehiscence is not preventable and the cause in another 41 percent is uncertain thus the rationale for the measure is not supported by the literature. Also, members were concerned that evidence for measure appeared to be based on an analysis of patients with a secondary diagnosis code for other than wound disruptions. The Committee noted that the disparity data could be improved. Finally, they stated only a very small number of patients experience wound dehiscence. It was noted that as in the case of many safety measures, the volume is often quite small and that the utility of the patient safety indicators is that they often serve as surrogate measures or trigger tools for which data is readily availability. In the case of these measures, comment was made that there is not a significant association with them as marked due to their infrequency of occurrence. Any additional discussion of the measure should be accompanied by data regarding its actual impact.
2. Scientific Acceptability of Measure Properties: *(2a. Precise specifications; 2b. Reliability testing; 2c. Validity testing; 2d. Exclusions justified; 2e. Risk adjustment/stratification; 2f. Meaningful differences; 2g. Comparability; 2h. Disparities)* Rationale:
3. Usability: *(3a. Meaningful/useful for public reporting and quality improvement; 3b. Harmonized; 3c. Distinctive or additive value to existing measures)* Rationale:
4. Feasibility: *(4a. Clinical data generated during care process; 4b. Electronic sources; 4c. Exclusions – no additional data source; 4d. Susceptibility to inaccuracies/ unintended consequences identified 4e. Data collection strategy can be implemented)* Rationale:
Public and Member Comment Commenters believed that this measure would provide an impact on the quality of care. The Committee felt that while the occurrence of wound dehiscence is concerning; however, the measures, as constructed, did not pass the criterion of importance and does not provide actionable data. This is based on the low rate of dehiscence that has remained stable over a period of time during which the measures have been in use; cited evidence that the underlying problem is infection; lack of a standard of care for prevention; and inability to reduce the rate due to lack of non-patient specific factors that can be influenced. The Committee did not change its recommendation.

NQF MEMBER AND PUBLIC COMMENT

No comments were made.

NEXT STEPS

The Committee and measure developers' responses, for the Phase II 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 November 21 and members will have 15 days to vote.

An availability survey will be sent to Committee for an additional call since the Committee did not have time to discuss the remaining agenda items.