



## Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to subcriterion 1b).

### Brief Measure Information

**NQF #:** 0264

**Corresponding Measures:**

**De.2. Measure Title:** Prophylactic Intravenous (IV) Antibiotic Timing

**Co.1.1. Measure Steward:** ASC Quality Collaboration

**De.3. Brief Description of Measure:** Rate of ASC patients who received IV antibiotics ordered for surgical site infection prophylaxis on time

**1b.1. Developer Rationale:** Improving the rate of timely administration of intravenous prophylactic antibiotics is expected to reduce the risk of subsequent surgical site infection.

**S.4. 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

**S.7. Denominator Statement:** All ASC admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection

**S.10. Denominator 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.

**De.1. Measure Type:** Process

**S.23. Data Source:** Other, Paper Medical Records

**S.26. Level of Analysis:** Facility

**IF Endorsement Maintenance – Original Endorsement Date:** Nov 15, 2007 **Most Recent Endorsement Date:** Jan 31, 2012

**IF this measure is included in a composite, NQF Composite#/title:**

**IF this measure is paired/grouped, NQF#/title:**

**De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results?** Not included in a composite or paired with another measure

### 1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. **Measures must be judged to meet all subcriteria to pass this criterion and be evaluated against the remaining criteria.**

**1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form**  
[MeasSubm\\_Evidence\\_-0264\\_Final.pdf](#)

#### 1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or

- disparities in care across population groups.

**1b.1. Briefly explain the rationale for this measure** (e.g., the benefits or improvements in quality envisioned by use of this measure) Improving the rate of timely administration of intravenous prophylactic antibiotics is expected to reduce the risk of subsequent surgical site infection.

**1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.** (This is required for endorsement maintenance. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included). This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.

**DATA AT TIME OF INITIAL ENDORSEMENT:**

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.

**CURRENT DATA:**

The ASC QC continues to collect quarterly data for this measure from member organizations. Data is currently available for the first three quarters of 2013. In the first quarter, the average rate of timely administration for 1,135 facilities was 99%. In the second quarter, the average rate of timely administration for 1,122 facilities was 99%. In the third quarter, the average rate of timely administration for 1,285 facilities was 99%.

Data for this measure is also collected by CMS for its ASC Quality Reporting Program. During its June 2013 webinar for ASCs, the agency and its contractor (FMQAI) indicated the overall rate of timely prophylactic IV antibiotic administration in the fourth quarter of 2012 was 962 per 1000 visits. The average rate of timely administration varied from a low of 962.30/1000 to a high of 973.46/1000 during the period from September 2012 through February 2013. Additional performance data for 2013 is not yet available, but is anticipated in April 2014.

Based on currently available data, the measure appears to be topped out. We would like this measure to be considered for reserve status.

**1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.**

**1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.** (This is required for endorsement maintenance. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.

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 evaluating the possibility of a registry and hopes to be able to collect and report disparities data in the future.

**1b.5. If no or limited data on disparities from the measure as specified is reported in 1b4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations.**

We are not aware of any available data that addresses disparities by population group for the timely administration of intravenous antimicrobial prophylaxis for surgical site infection.

**1c. High Priority** (previously referred to as High Impact)

The measure addresses:

- a specific national health goal/priority identified by DHHS or the National Priorities Partnership convened by NQF;  
OR

- a demonstrated high-priority (high-impact) aspect of healthcare (e.g., affects large numbers of patients and/or has a substantial impact for a smaller population; leading cause of morbidity/mortality; high resource use (current and/or future); severity of illness; and severity of patient/societal consequences of poor quality).

**1c.1. Demonstrated high priority aspect of healthcare**

Affects large numbers, Frequently performed procedure, A leading cause of morbidity/mortality, High resource use, Severity of illness, Patient/societal consequences of poor quality

**1c.2. If Other:**

**1c.3. Provide epidemiologic or resource use data that demonstrates the measure addresses a high priority aspect of healthcare.**

**List citations in 1c.4.**

As a result of advances in surgery and anesthesia, approximately 80 percent of surgeries in the United States are now performed on an outpatient basis. Ambulatory surgical centers perform approximately 40%, or more than 22 million, of those outpatient surgeries. The timeliness of prophylactic IV antibiotic administration is measured for surgical patients in both the hospital inpatient and outpatient settings, and given the high volume of surgical procedures performed, should also be measured in the ambulatory surgical center setting. 1

Accumulated evidence indicates that timely administration of prophylactic intravenous antibiotics reduces the incidence of surgical site infections. The evidence suggests that administration of antibiotics within one hour of incision is associated with maximal efficacy. Further prolonging the interval between administration and incision/inflation of the tourniquet is associated with progressively higher risk of surgical wound infection. 2-11, 21-22

Surgical site infection rates in ambulatory surgery are not well understood. However, in other settings, surgical site infections occur in 2 to 5 percent of clean extra-abdominal surgeries. Evidence suggests each infection increases a hospital stay by 7 to 10 days and adds from \$3,000 to \$29,000 in charges. Patients who develop surgical site infections are thought to have at least twice the incidence of mortality when compared to surgical patients without a surgical site infection. 12-20

**1c.4. Citations for data demonstrating high priority provided in 1a.3**

1 U.S. Department of Health and Human Services. Centers for Medicare & Medicaid Services. <http://www.cms.gov/>.

2 Steinberg JP, Barun BI, Hellinger WC, Kusek L, Bozikis MR, Bush AJ, Dellinger EP, Burke JP, Simmons B, Kritchevsky SB, Trial to reduce antimicrobial prophylaxis errors (TRAPE) study group. Timing of antimicrobial prophylaxis and the risk of surgical site infections: results from the trial to reduce antimicrobial prophylaxis errors. *Ann Surg* 2009;250(1):10-6.

3 Forbes SS, Stephen WJ, Harper WL, Loeb M, Smith R, Christoffersen EP, McLean RF. Implementation of evidence-based practices for surgical site infection prophylaxis: results of a pre- and postintervention study. *J Am Coll Surg*. 2008 Sep;207(3):336-41.

4 Koopman E, Nix DE, Erstad BL, Demeure MJ, Hayes MM, Ruth JT, Mattias KR. End-of-procedure cefazolin concentrations after administration for prevention of surgical-site infection. *Am J Health Syst Pharm*. 2007 Sep;64(18):1927-34.

5 Manniën J, van Kasteren ME, Nagelkerke NJ, Gyssens IC, Kullberg BJ, Wille JC, de Boer AS. Effect of optimized antibiotic prophylaxis on the incidence of surgical site infection. *Infect Control Hosp Epidemiol*. 2006;27(12):1340-6.

6 Burke J. Maximizing appropriate antibiotic prophylaxis for surgical patients: an update from LDS Hospital, Salt Lake City. *Clin Infect Dis*. 2001;33(Suppl 2):S78-83.

7 Classen D et al. The timing of prophylactic administration of antibiotics and the risk of surgical wound infection. *NEJM*. 1992;326(5):281-286.

8 Silver A et al. Timeliness and use of antibiotic prophylaxis in selected inpatient surgical procedures. The Antibiotic Prophylaxis Study Group. *Am J Surg*. 1996;171(6):548-552.

9 Papaioannou N, Kalivas L, Kalavritinos J, and Tsourvakas S. Tissue concentrations of third-generation cephalosporins (ceftazidime and ceftriaxone) in lower extremity tissues using a tourniquet. *Arch Orthop Trauma Surg*. 1994;113(3):167-9.

- 10 Dounis E, Tsourvakas S, Kalivas L, and Giamacellou H. Effect of time interval on tissue concentrations of cephalosporins after tourniquet inflation. Highest levels achieved by administration 20 minutes before inflation. *Acta Orthop Scand*. 1995;66(2):158-60.
- 11 Friedrich L, White R, Brundage D, Kays M, Friedman R. The effect of tourniquet inflation on cefazolin tissue penetration during total knee arthroplasty. *Pharmacotherapy*. 1990; 10(6):373-7.
- 12 Cruse P. Wound infection surveillance. *Rev Infect Dis* 1981; 3:734-737.
- 13 Cruse PJ, Foord R. The epidemiology of wound infection: a 10-year prospective study of 62,939 wounds. *Surg Clin North Am* 1980; 60:27-40.
- 14 Engemann JJ, Carmeli Y, Cosgrove SE, et al. Adverse clinical and economic outcomes attributable to methicillin resistance among patients with *Staphylococcus aureus* surgical site infection. *Clin Infect Dis* 2003; 36:592-598.
- 15 Kirkland K, Briggs J, Trivette S, Wilkinson W, and Sexton D. The impact of surgical-site infections in the 1990s: attributable mortality, excess length of hospitalization, and extra costs. *Infect Control Hosp Epidemiol*. 1999;20(11):725-30.
- 16 Coello R, Glenister H, Fereres J, et al. The cost of infection in surgical patients: a case-control study. *J Hosp Infect* 1993; 25:239-250.
- 17 Vegas AA, Jodra VM, Garcia ML. Nosocomial infection in surgery wards: a controlled study of increased duration of hospital stays and direct cost of hospitalization. *Eur J Epidemiol* 1993; 9:504-510.
- 18 Whitehouse JD, Friedman ND, Kirkland KB, Richardson WJ, Sexton DJ. The impact of surgical-site infections following orthopedic surgery at a community hospital and a university hospital: adverse quality of life, excess length of stay, and extra cost. *Infect Control Hosp Epidemiol* 2002; 23:183-189.
- 19 Apisarnthanarak A, Jones M, Waterman BM, Carroll CM, Bernardi R, Fraser VJ. Risk factors for spinal surgical-site infections in a community hospital: a case-control study. *Infect Control Hosp Epidemiol* 2003; 24:31-36.
- 20 Encinosa WE, Hellinger FJ. The impact of medical errors on ninety-day costs and outcomes: An examination of surgical patients. *Health Serv Res*. 2008 Dec;43(6):2067-85.
- 21 Singh R, Mesh CL, Aryaie A, Dwivedi AK, Marsden B, Shukla R, Annenberg AJ, Zenni GC. Benefit of a single dose of preoperative antibiotic on surgical site infection in varicose vein surgery. *Ann Vasc Surg*. 2012 Jul;26(5):612-9. doi: 10.1016/j.avsg.2011.10.013. Epub 2012 Feb 8.
- 22 Koch CG, Li L, Hixson E, Tang A, Gordon S, Longworth D, Phillips S, Blackstone E, Henderson JM. Is it time to refine? An exploration and simulation of optimal antibiotic timing in general surgery. *J Am Coll Surg*. 2013 Oct;217(4):628-35. doi: 10.1016/j.jamcollsurg.2013.05.024. Epub 2013 Jul 10.

**1c.5. If a PRO-PM (e.g. HRQoL/functional status, symptom/burden, experience with care, health-related behaviors), provide evidence that the target population values the measured PRO and finds it meaningful. (Describe how and from whom their input was obtained.)**

This measure is not a PRO-PM.

## 2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. ***Measures must be judged to meet the subcriteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.***

**2a.1. Specifications** The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

**De.5. Subject/Topic Area** (check all the areas that apply):

Surgery : Perioperative and Anesthesia

**De.6. Non-Condition Specific** (check all the areas that apply):

Primary Prevention, Safety : Healthcare Associated Infections

**S.1. Measure-specific Web Page** (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

<http://ascquality.org/documents/ASCQImplementationGuide2.0January2014.pdf>

**S.2a. If this is an eMeasure**, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure Attachment:

**S.2b. Data Dictionary, Code Table, or Value Sets** (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

No data dictionary Attachment:

**S.3. For endorsement maintenance**, please briefly describe any changes to the measure specifications since last endorsement date and explain the reasons.

There have not been any changes to the measure specifications since the last endorsement date.

**S.4. Numerator Statement** (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome)

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

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

**S.5. Time Period for Data** (What is the time period in which data will be aggregated for the measure, e.g., 12 mo, 3 years, look back to August for flu vaccination? Note if there are different time periods for the numerator and denominator.)

In-facility, prior to discharge

**S.6. Numerator Details** (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

DEFINITIONS:

Admission: completion of registration upon entry into the facility

Prophylactic IV antibiotic for prevention of surgical site infection: an antibiotic prescribed with the intent of reducing the probability of an infection related to an invasive procedure; for purposes of this measures, the following are considered prophylactic for surgical site infection: ampicillin/sulbactam, aztreonam, cefazolin, cefmetazole, cefotetan, ceftiofur, cefuroxime, ciprofloxacin, clindamycin, ertapenem, erythromycin, gatifloxacin, gentamicin, levofloxacin, metronidazole, moxifloxacin, neomycin and vancomycin

On time: antibiotic infusion is initiated within one hour prior to the time of the initial surgical incision or the beginning of the procedure (e.g., introduction of endoscope, insertion of needle, inflation of tourniquet) or two hours prior if vancomycin or a fluoroquinolone is administered

**S.7. Denominator Statement** (Brief, narrative description of the target population being measured)

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

**S.8. Target Population Category** (Check all the populations for which the measure is specified and tested if any):

**S.9. Denominator Details** (All information required to identify and calculate the target population/denominator such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

DEFINITIONS:

Admission: completion of registration upon entry into the facility

Prophylactic IV antibiotic for prevention of surgical site infection: an antibiotic prescribed with the intent of reducing the probability of an infection related to an invasive procedure; for purposes of this measures, the following are considered prophylactic for surgical site infection: ampicillin/sulbactam, aztreonam, cefazolin, cefmetazole, cefotetan, cefoxitin, cefuroxime, ciprofloxacin, clindamycin, ertapenem, erythromycin, gatifloxacin, gentamicin, levofloxacin, metronidazole, moxifloxacin, neomycin and vancomycin

**S.10. Denominator Exclusions** (Brief narrative description of exclusions from the target population)

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.

**S.11. Denominator Exclusion Details** (All information required to identify and calculate exclusions from the denominator such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

The denominator exclusions do not require additional data collection. They are included to offer additional clarification to the measure user in order to ensure only the specified admissions are included for measurement.

**S.12. Stratification Details/Variables** (All information required to stratify the measure results including the stratification variables, definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b)

The measure is not stratified.

**S.13. Risk Adjustment Type** (Select type. Provide specifications for risk stratification in S.12 and for statistical model in S.14-15)

No risk adjustment or risk stratification

If other:

**S.14. Identify the statistical risk model method and variables** (Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development and testing should be addressed with measure testing under Scientific Acceptability)

Not applicable

**S.15. Detailed risk model specifications** (must be in attached data dictionary/code list Excel or csv file. Also indicate if available at measure-specific URL identified in S.1.)

Note: Risk model details (including coefficients, equations, codes with descriptors, definitions), should be provided on a separate worksheet in the suggested format in the Excel or csv file with data dictionary/code lists at S.2b.

**S.15a. Detailed risk model specifications** (if not provided in excel or csv file at S.2b)

Not applicable

**S.16. Type of score:**

Rate/proportion

If other:

**S.17. Interpretation of Score** (Classifies interpretation of score according to whether better quality is associated with a higher score,

a lower score, a score falling within a defined interval, or a passing score)

Better quality = Higher score

**S.18. Calculation Algorithm/Measure Logic** (Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)

The number of admissions with a preoperative order for a prophylactic IV antibiotic for prevention of surgical site infection who received the prophylactic antibiotic on time is divided by the number of ASC admissions with a preoperative order for a prophylactic IV antibiotic during the reporting period, yielding the rate of on time prophylactic IV antibiotic administration for the reporting period.

**S.19. Calculation Algorithm/Measure Logic Diagram URL or Attachment** (You also may provide a diagram of the Calculation Algorithm/Measure Logic described above at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

No diagram provided

**S.20. Sampling** (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF a PRO-PM, identify whether (and how) proxy responses are allowed.

The measure is not based on a sample.

**S.21. Survey/Patient-reported data** (If measure is based on a survey, provide instructions for conducting the survey and guidance on minimum response rate.)

IF a PRO-PM, specify calculation of response rates to be reported with performance measure results.

The measure is not based on a survey.

**S.22. Missing data** (specify how missing data are handled, e.g., imputation, delete case.)

Required for Composites and PRO-PMs.

This measure is not an eMeasure, PRO-PM, or part of a composite.

**S.23. Data Source** (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.24.

Other, Paper Medical Records

**S.24. Data Source or Collection Instrument** (Identify the specific data source/data collection instrument e.g. name of database, clinical registry, collection instrument, etc.)

IF a PRO-PM, identify the specific PROM(s); and standard methods, modes, and languages of administration.

ASC medical records, as well as medication administration records and measure data collection instruments may serve as data sources. No specific collection instrument is required although the ASC Quality Collaboration has developed a sample data collection instrument that may be used as desired. Facilities may use any collection instrument that allows tracking of the timing of prophylactic IV antibiotic administration for all admissions with a preoperative order for prophylaxis.

**S.25. Data Source or Collection Instrument** (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

Available at measure-specific web page URL identified in S.1

**S.26. Level of Analysis** (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Facility

**S.27. Care Setting** (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Outpatient Services

If other:

**S.28. COMPOSITE Performance Measure** - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

This measure is not part of a composite performance measure.



**2a. Reliability – See attached Measure Testing Submission Form**

**2b. Validity – See attached Measure Testing Submission Form**

[MeasSubm\\_MeasTesting\\_\\_-0264\\_Final.pdf](#)

### 3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

#### 3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

##### 3a.1. Data Elements Generated as Byproduct of Care Processes.

[generated by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition](#)

If other:

#### 3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

**3b.1. To what extent are the specified data elements available electronically in defined fields?** (*i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields*)

[No data elements are in defined fields in electronic sources](#)

**3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources.**

[Widespread adoption of electronic health records in ambulatory surgical centers would be needed to achieve electronic capture of data elements.](#)

**3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL.**

**Attachment:**

#### 3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

**3c.1. Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.**

**IF a PRO-PM, consider implications for both individuals providing PROM data (patients, service recipients, respondents) and those whose performance is being measured.**

[The ASC Quality Collaboration has included "Frequently Asked Questions" in the Implementation Guide for the measure to assist users in their implementation of data collection.](#)

[When we initially validated the measure, our experts were asked about feasibility, which included the following items rated with a Likert Scale:](#)

[The data required for the measure are likely to be obtained with reasonable effort.](#)

[The data required for the measure are likely to be obtained with reasonable cost.](#)

[The data required for the measure can be generated during care delivery.](#)

[These three items were highly rated by the independent panel of experts.](#)



This measure is designed to allow data collection concurrent with the episode of patient care. As a result, and with widespread use of the measure, the feedback we have received is that most ambulatory surgery centers have had very little difficulty implementing the measure or collecting the data in an efficient manner that minimizes burden. Given that the measure data is tied to the medication administration process, where documentation practices are well established, the necessary data is readily available and rarely missing.

**3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).**

There are no fees, licensing or other requirements to use this measure as specified.

## 4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

### 4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

#### 4.1. Current and Planned Use

*NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.*

Planned	Current Use (for current use provide URL)
	<p>Public Reporting</p> <p>ASC Quality Collaboration Public Quality Report  <a href="http://www.ascquality.org/qualityreport.cfm">http://www.ascquality.org/qualityreport.cfm</a></p> <p>Minnesota Statewide Quality Reporting and Measurement System - Program Suspended for ASCs for 2014  <a href="http://www.health.state.mn.us/healthreform/measurement/adoptedrule/index.html">http://www.health.state.mn.us/healthreform/measurement/adoptedrule/index.html</a></p> <p>Payment Program</p> <p>CMS Ambulatory Surgical Center Quality Reporting Program  <a href="https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/ASC-Quality-Reporting/index.html">https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/ASC-Quality-Reporting/index.html</a></p> <p>Quality Improvement (Internal to the specific organization)</p> <p>ASC Quality Collaboration Members  <a href="http://www.ascquality.org/qualityreport.cfm">http://www.ascquality.org/qualityreport.cfm</a></p>

#### 4a.1. For each CURRENT use, checked above, provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included

The Ambulatory Surgical Center Quality Reporting Program (ASCQR Program) is a pay-for-reporting program sponsored by the Centers for Medicare and Medicaid Services (CMS). The program was implemented in October of 2012. This is a nationwide program, with reporting required by all Medicare certified ASCs, of which there are more than 5300. According to MedPAC's March 2013 Report to Congress, ASCs served 3.4 million fee-for-service Medicare beneficiaries in 2011.

The Minnesota Statewide Quality Reporting and Measurement System is a public reporting program of the State of Minnesota. It is

a statewide program requiring data submission from all state licensed ASCs. On February 28, 2014, the Minnesota Department of Health announced, "Considering that nearly all ASCs have achieved a similar high level of performance on the three quality measures and to reduce provider reporting burden, MDH has determined that it will suspend SQRMS ASC registration and quality measure reporting during 2014."

ASC Quality Collaboration Public Quality Report sponsored by the ASC Quality Collaboration. This program is used to provide a public report of data for quality measures that the ASC Quality Collaboration has developed and obtained NQF endorsement. In addition to being a public report, this data is used to provide an external benchmark to any ambulatory surgery center that wishes to use it, as it is freely available to all online. Provider organizations that are members of the ASC Quality Collaboration use this information for internal performance improvement efforts. The most recently posted quality data report for the Prophylactic IV Antibiotic Timing measure is for the third quarter of 2013. A total of 1,285 facilities (roughly 24% of the approximately 5300 Medicare certified ASCs in the US) submitted data, which represented the experience of 1,454,207 ASC admissions. Data is collected from every state in the US except North Dakota, Rhode Island, Vermont and West Virginia.

The Ambulatory Surgery Center Association's Clinical/Operational Benchmarking Program is an external benchmarking program that allows participating centers to compare their performance to that of other participants and implement performance improvement programs as necessary based on those comparisons. For the most recent quarter, over 550 ASCs reported data for the Prophylactic IV Antibiotic Timing measure, representing the experience of over 600,000 patient admissions. ASCs participating in reporting data for this program are located in 46 of 50 states.

**4a.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons?** (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

Not applicable; please see 4a.1. above.

**4a.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement.** (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

Not applicable; please see 4a.1. above.

#### **4b. Improvement**

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

##### **4b.1. Progress on Improvement. (Not required for initial endorsement unless available.)**

Performance results on this measure (current and over time) should be provided in 1b.2 and 1b.4. Discuss:

- Progress (trends in performance results, number and percentage of people receiving high-quality healthcare)
- Geographic area and number and percentage of accountable entities and patients included

The ASC Quality Collaboration's public reporting project has been collecting and publicly reporting performance data for this measure since the first quarter of 2009. At that time, based on the reports of 553 facilities across the United States (reflecting the experience of 568,430 ASC admissions), the percentage of timely prophylactic IV antibiotic administration was 92 percent. Performance data for the first three quarters of 2013 indicates that the percentage of ASC admission with timely administration of prophylactic IV antibiotics is 99%. As discussed elsewhere, the most recent third quarter report includes the experience of 1,285 ASCs and 1,454,207 ASC admissions. These ASC are located in all states except North Dakota, Rhode Island, Vermont and West Virginia.

The Minnesota Statewide Quality Reporting and Measurement System (SQRMS) has reported statewide rates for SQRMS ASC quality measures. The statewide ASC rate for Prophylactic IV Antibiotic Timing for 2010 was 98.0%, for 2011 was 99.1%, and for 2012 was 99.1%.

We anticipate that the data CMS will release later this year will show high levels (greater than 95%) of performance.

The measure appears to be topped out, and in light of this we believe the measure should be re-endorsed with a reserve status.

**4b.2. If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.**

**4c. Unintended Consequences**

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

**4c.1. Were any unintended negative consequences to individuals or populations identified during testing; OR has evidence of unintended negative consequences to individuals or populations been reported since implementation? If so, identify the negative unintended consequences and describe how benefits outweigh them or actions taken to mitigate them.**

The ASC Quality Collaboration is not aware of any unintended negative consequences resulting from the use of this measure.

## 5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

**5. Relation to Other NQF-endorsed Measures**

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.  
Yes

**5.1a. List of related or competing measures (selected from NQF-endorsed measures)**

0269 : Timing of Prophylactic Antibiotics - Administering Physician

0270 : Perioperative Care: Timing of Prophylactic Parenteral Antibiotics – Ordering Physician

0472 : Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section.

0527 : Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision

**5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.**

We are not aware of other related or competing measures that are not NQF endorsed.

**5a. Harmonization**

The measure specifications are harmonized with related measures;

**OR**

The differences in specifications are justified

**5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):**

**Are the measure specifications completely harmonized?**

No

**5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.**

NQF #0472: Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section. This measure focuses on timely receipt of prophylactic antibiotics, but the target population is patients undergoing Cesarean section. Ambulatory surgical centers do not perform Cesarean sections, so the measure is not applicable to the ASC setting. NQF #0527: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision. This measure focuses on timely receipt of prophylactic antibiotics prior to surgery, but the target population is patients having major surgery. The denominator population is identified by a list of major operations that are rarely, and often never, performed in the ASC setting (e.g., coronary artery bypass grafting and other cardiac surgery), which is a facility setting for elective, minor surgeries and procedures. This focus on major surgery limits the

usability of the measure in ASCs. In addition, the measure is specified using ICD-9-CM procedure codes, which are not included in the standard code set for the outpatient setting. Cross-walking CPT codes to ICD-9 (or ICD-10) procedure codes would add unnecessary burden. NQF #0270: Perioperative Care: Timing of Prophylactic Parenteral Antibiotics – Ordering Physician. This measure focuses on whether the physician order for prophylactic antibiotics specifies the appropriate timeframe prior to surgery, but the target population is primarily patients having major surgery. The measure was developed for use by surgeons, and reflects the broad scope of their professional services. The majority of the operations specified by the denominator are not performed in the ASC setting, which focuses on elective, minor surgeries and procedures that do not require an overnight stay. The focus on major surgery limits its usability in the ASC setting. NQF #0269: Timing of Prophylactic Antibiotics - Administering Physician. This measure focuses on the timely initiation of prophylactic antibiotics prior to surgery, but was developed for use by individual anesthesia professionals. As a result, the denominator is specified by anesthesia CPT codes. Per Federal regulation, ASCs may only provide facility services (and cannot provide professional services), so ASCs do not provide or generate anesthesia CPT codes for professional anesthesia services. As a result, the measure is not feasible and usable as a facility measure for ASCs.

#### **5b. Competing Measures**

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

**OR**

Multiple measures are justified.

#### **5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):**

**Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)**

For those who are not intimately familiar with the clinical and operational characteristics of ASCs, some of the measures listed in 5a.1. may appear to be competing measures. However, none is as appropriate and well suited to the ASC setting as the ASC Quality Collaboration's (ASC QC) Prophylactic Intravenous Antibiotic Timing measure.

While the focus of most of these measures is timely antibiotic prophylaxis prior to surgery makes them appear to be competing, none targets the ASC's limited scope of services, which focuses on elective minor surgeries and procedures. Measures such as #0527 and #0270 are unquestionably appropriate to their intended purposes, but have limited relevance as measures of ASC quality due to their focus on major surgery.

In 2010, the ASC QC analyzed the specifications of the CMS OP-6 measure: Timing of Antibiotic Prophylaxis. This measure is derived from NQF #0527, and "scaled back" to better suit the Hospital OQR program. Yet even this scaled back version has little relevance to the ASC. An analysis the ASC QC performed in 2011 using 2009 Medicare data showed that of the 108 procedure codes listed in the denominator code set at that time, only 66 were performed for Medicare beneficiaries in the ASC setting. Those 66 services had an ASC volume of only 29,222 Medicare procedures in 2009, which was less than 0.5% of the roughly 6.4 million total ASC Medicare service volume that year. This means that #0527 would be even less relevant, and the usability of the measure would be severely limited in an ASC.

A recent ASC QC analysis of NQF #0270 using 2011 Medicare volume data for ASCs also shows limited applicability to the ASC setting. Of the 958 codes specified by the denominator, only 228 (about 24%) are currently approved by CMS for the ASC setting. A closer look shows that these 228 procedures represent only a tiny fraction of the allowed services ASCs provided to Medicare beneficiaries that year: a mere 1.6% (102,833/6,352,309 x 100). In other words, the measure does not have the necessary focus on ASC services, limiting its usability for the ASC setting.

Finally, the ASC QC's Prophylactic Intravenous Antibiotic Timing measure is specified in a manner that allows concurrent data collection, providing a more efficient way for ASCs to measure quality. All the other measures would require retrospective data collection. In order to ensure complete data capture the ASC would need to have a process in place to retrospectively identify and review all its billing data for the codes specified in the denominator. Given that the ASC QC measure does not require this process, each of the other measures would impose additional and unnecessary burden on the ASC.

In our opinion, ASC QC's Prophylactic Intravenous Antibiotic Timing measure has the potential to be applied to other facility settings (after appropriate testing) and would likely lessen the data collection burden in those settings as well.

<b>Appendix</b>
<p><b>A.1 Supplemental materials may be provided in an appendix.</b> All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.</p> <p>Available at measure-specific web page URL identified in S.1 <b>Attachment:</b></p>
<b>Contact Information</b>
<p><b>Co.1 Measure Steward (Intellectual Property Owner):</b> ASC Quality Collaboration</p> <p><b>Co.2 Point of Contact:</b> Donna, Slosburg, <a href="mailto:donnaslosburg@ascquality.org">donnaslosburg@ascquality.org</a>, 727-367-0072-</p> <p><b>Co.3 Measure Developer if different from Measure Steward:</b> ASC Quality Collaboration</p> <p><b>Co.4 Point of Contact:</b> Donna, Slosburg, <a href="mailto:donnaslosburg@ascquality.org">donnaslosburg@ascquality.org</a>, 727-367-0072-</p>
<b>Additional Information</b>
<p><b>Ad.1 Workgroup/Expert Panel involved in measure development</b></p> <p><b>Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.</b></p> <p>The ASC Quality Collaboration workgroup members meet via teleconference to develop, critique, and modify candidate measures; to maintain existing measures; and to offer sites willing to participate in testing.</p> <p>The following is a list of the individuals (and their affiliation at the time of their participation) serving on the workgroup and contributing to this measure:</p> <p>AAAHC: Naomi Kuznets, PhD</p> <p>Ambulatory Surgery Foundation: Debra Stinchcomb, BSN, CASC, David Shapiro, MD, Sarah Martin, RN, BS, CASC and Marian Lowe</p> <p>AMSURG: Deby Samuels, Lorri Smith RN, BSN and Linda Brooks-Belli</p> <p>AOA/HFAP: Monda Shaver, RN, BSN, CPHIT and Susan Lautner, RN, BSN, MSHL</p> <p>AORN: Bev Kirchner BSN, CNOR, CASC and Bonnie Denholm, RN, MS, CNOR</p> <p>ASCOA: Ann Geier RN, MS, CNOR, CASC</p> <p>ASC Quality Collaboration: Donna Slosburg, BSN, LHRM, CASC</p> <p>HCA: Kathy Wilson</p> <p>The Joint Commission: Michael Kulczycki and Kathleen Domzalski</p> <p>NATIONAL: Rhonda Arnwine, MBA and Terry Hawes, RN, BHA</p> <p>Novamed: Cassandra Speier</p> <p>NUETERRA: Rachelle Babin RN, BSN</p> <p>Surgical Care Affiliates: Kim Wood, MD</p> <p>Symbion: Steve Whitmore and Gina Throneberry RN, MBA, CASC</p> <p>USPI: David Zarin, MD, Julie Gunderson RN, MM, CPHQ and Clint Chain, RN, BSN</p>
<p><b>Measure Developer/Steward Updates and Ongoing Maintenance</b></p> <p><b>Ad.2 Year the measure was first released:</b> 2007</p> <p><b>Ad.3 Month and Year of most recent revision:</b> 12, 2010</p> <p><b>Ad.4 What is your frequency for review/update of this measure?</b> Annually, or more frequently if indicated</p> <p><b>Ad.5 When is the next scheduled review/update for this measure?</b> 12, 2014</p>
<p><b>Ad.6 Copyright statement:</b> None</p> <p><b>Ad.7 Disclaimers:</b> None</p>
<p><b>Ad.8 Additional Information/Comments:</b> None</p>