NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all <mark>yellow highlighted</mark> areas of the form. Evaluate the extent to which each subcriterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the subcriteria (<mark>yellow</mark> highlighted areas).*

Steering Committee: Complete all <mark>pink</mark> highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 0515 **NQF Project:** Surgery Endorsement Maintenance 2010	
MEASURE DESCRIPTIVE INFORMATION	

De.1 Measure Title: Ambulatory surgery patients with appropriate method of hair removal

De.2 Brief description of measure*:* Percentage of ASC admissions with appropriate surgical site hair removal.

1.1-2 Type of Measure: Process
De.3 If included in a composite or paired with another measure, please identify composite or paired measure
Not included in a composite or paired with another measure

De.4 National Priority Partners Priority Area: Safety
De.5 IOM Quality Domain: Effectiveness
De.6 Consumer Care Need: Staying healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* **A.1 Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes **A.2 Indicate if Proprietary Measure** (*as defined in measure steward agreement*): Proprietary measure **A.3 Measure Steward Agreement:** Agreement will be signed and submitted prior to or at the time of measure submission **A.4 Measure Steward Agreement attached:**	**A** Y☒ N☐
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least	**B** Y☒

every 3 years. Yes, information provided in contact section	N☐
C. The intended use of the measure includes <u>both</u> public reporting <u>and</u> quality improvement. ►**Purpose:** Public reporting, Internal quality improvement	**C** Y☒ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. **D.1Testing:** Yes, fully developed and tested **D.2 Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☒ N☐
(for NQF staff use**) Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*):	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*): Measure developer indicated that data on disparities is unavailable.	
Staff Reviewer Name(s): Alexis Forman	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. ***Measures must be judged to be important to measure and report*** *in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	**Eval Ratin g**
(for NQF staff use) **Specific NPP goal**: Not related to a specific NPP goal.	
1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, Frequently performed procedure, Leading cause of morbidity/mortality, High resource use, Severity of illness, Patient/societal consequences of poor quality **1a.2** **1a.3 Summary of Evidence of High Impact:** 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.1 Appropriate surgical site hair removal is measured for surgical patients in the hospital inpatient setting, and given the high volume of outpatient surgical procedures, should also be measured in the outpatient setting. Accumulated evidence suggests that shaving the surgical site is associated with an increased incidence of surgical site infections. Razors are thought to cause microabrasions that may subsequently become infected. Hair removal with clippers has been demonstrated to reduce the rate of surgical site infections and associated healthcare expenditures. 2-12 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	**1a** C☐ P☐ M☐ N☐

to surgical patients without a surgical site infection. 13-19

1a.4 Citations for Evidence of High Impact: 1. U.S. Department of Health and Human Services. Centers for Medicare & Medicaid Services. http://www.cms.gov/.

2. Alexander JW, Fischer JE, Boyajian M, Palmquist J, Morris MJ. The influence of hair-removal methods on wound infections. Arch Surg. 1983 Mar;118(3):347-52.

3. Balthazar ER, Colt JD, Nichols RL. Preoperative hair removal: a random prospective study of shaving versus clipping. South Med J. 1982 Jul;75(7):799-801.

4. Court-Brown CM. Preoperative skin depilation and its effect on postoperative wound infections. J R Coll Surg Edinb. 1981 Jul;26(4):238-41.

5. Kjonniksen I, Andersen BM, Sondenaa VG, Segadal L. Preoperative hair removal--a systematic literature review. AORN J. 2002 May;75(5):928-38, 940.

6. Ko W, Lazenby WD, Zelano JA, Isom OW, Krieger KH. Effects of shaving methods and intraoperative irrigation on suppurative mediastinitis after bypass operations. Ann Thorac Surg. 1992 Feb;53(2):301-5.

7. Powis SJ, Waterworth TA, Arkell DG. Preoperative skin preparation: clinical evaluation of depilatory cream. Br Med J. 1976 Nov 13;2(6045):1166-8.

8. Seropian R, Reynolds BM. Wound infections after preoperative depilatory versus razor preparation. Am J Surg. 1971 Mar;121(3):251-4.

9. Tanner J, Moncaster K, Woodings D. Preoperative hair removal to reduce surgical site infection. Cochrane Database Syst Rev. 2006 Jul 19;3:CD004122.

10. Thur de Koos P, McComas B. Shaving versus skin depilatory cream for preoperative skin preparation. A prospective study of wound infection rates. Am J Surg. 1983 Mar;145(3):377-8.

11. Gurkan I, Wenz Sr, JF. Perioperative infection control: an update for patient safety in orthopedic surgery. Orthopedics. 2006 Apr;29(4):329.

12. Fletcher N, Sofianos D, Berkes MB, Obremskey WT. Prevention of perioperative infection. J Bone Joint Surg Am. 2007;89:1605-18.

13. Cruse P. Wound infection surveillance. Rev Infect Dis 1981; 3:734-737.

14. 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.

15. 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.

16. 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.

17. 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.

18. 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.

19. 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.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Improving the rate of appropriate surgical site hair removal is expected to reduce the risk of surgical site infection.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
The rates for this measure were collected for 192 ambulatory surgery centers throughout the US for services provided during July to September 2010. The rate for appropriate surgical site hair with removal clippers or depilatory cream ranged from a minimum of 0.0% to a maximum of 100%. The mean rate was 96% (SD: 18%), while the median rate was 100%. The minimum rate of 0% and the fact that 7.3% of the centers reported a rate of lower than 100% demonstrate that there is an opportunity for improvement in this measure.

1b.3 Citations for data on performance gap:
A convenience sample of 192 ambulatory surgery centers was selected to assess the opportunity for improvement for this measure. The centers were located throughout the US. Services from the third 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 not intended to evaluate disparities by population group.

1b.5 Citations for data on Disparities:
No data available for disparities by population group. Please see 1b.4. above, this measure is not intended to evaluate disparities by population group.

Regarding 1b.2. above, a convenience sample of 192 ambulatory surgery centers was selected to assess the opportunity for improvement for this measure. The centers were located throughout the US. Services from the third calendar quarter of 2010 were included in this portion of the study.

1b
C☐
P☐
M☐
N☐

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*): Evidence suggests improving the rate of appropriate surgical site hair removal can be expected to reduce the risk of surgical site infection.

1c.2-3. Type of Evidence: Observational study, Evidence-based guideline, Randomized controlled trial, Expert opinion, Systematic synthesis of research

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*):
The literature regarding preoperative hair removal has been systematically reviewed twice, once by Kjonniksen et al in 2002 and again by Tanner et al in 2007. Three randomized controlled trials (Alexander et al 1983, Balthazar et al 1983, Ko et al 1992) compared the rates of infection at the surgical site when hair removal at the site was performed with clippers or with razors. A statistically significant difference in infection rates in the pooled results (Tanner et al 2007) was seen, with 2.8% of the patients who were shaved developing a surgical site infection compared with 1.4% rate of surgical site infection in the patients who were clipped. Additional randomized controlled trials (Court-Brown 1981, Powis et al 1976, Seropian 1971, Thur de Koos 1983) have demonstrated that patients were more likely to develop a surgical site infection when shaved as compared to having hair removal with a depilatory. Observational studies have suggested that no hair removal is less likely to result in surgical site infection, but this has not been confirmed in randomized controlled trials.

The HICPAC/CDC Guideline for Prevention of Surgical Site Infection (Mangram at al 1999), the Association of Operating Room Nurses Recommended Practices for Preoperative Patient Skin Antisepsis (AORN 2002) and the SHEA/IDSA Strategies to Prevent Surgical Site Infections in Acute Care Hospitals (Anderson et al 2008) are

1c
C☐
P☐
M☐
N☐

consistent with the intent of this measure.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):** Most recently rated II-A by SHEA/IDSA in 2008. II: Evidence from >1 well-designed clinical trial without randomization, from cohort or case-controlled analytic studies (preferably from >1 center), from multiple time-series studies, or from dramatic results of uncontrolled experiments ; A: Good evidence to support a recommendation for use

1c.6 Method for rating evidence: The Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA) Standards and Practice Guidelines Committee convened experts in the prevention and monitoring of healthcare-associated infections (HAIs). In evaluating the evidence regarding the prevention and monitoring of HAIs, the HAI Allied Task Force followed a process used in the development of other IDSA guidelines, including a systematic weighting of the quality of the evidence and the grade of recommendation.

The weighting methodology was adapted from the Canadian Task Force on the Periodic Health Examination.
Strength of recommendation:
A Good evidence to support a recommendation for use
B Moderate evidence to support a recommendation for use
C Poor evidence to support a recommendation
Quality of evidence:
I Evidence from > or = 1 properly randomized, controlled trial
II Evidence from > or = 1 well-designed clinical trial, without randomization; from cohort or case-control analytic studies (preferably from >1 center); from multiple time series; or from dramatic results from uncontrolled experiments
III Evidence from opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

1c.7 Summary of Controversy/Contradictory Evidence: In July 2009, the Surgical Quality Alliance requested review of another hair removal measure endorsed by the National Quality Forum (NQF), entitled "Surgery Patients with Appropriate Hair Removal" (#0301). This measure was considered under ad hoc review because of concerns that the evidence did not support hair removal for specific surgeries. The NQF Board voted to continue endorsement of this measure with minor modifications to reflect evidence changes regarding hair removal for neurosurgical and scrotum procedures.

Some recent studies suggest that better adherence to individual infection-related process measures is not significantly associated with better outcomes. See:

Ingraham AM, Cohen ME, Bilimoria KY, Dimick JB, Richards KE, Raval MV, Fleisher LA, Hall BL, Ko CY. Association of surgical care improvement project infection-related process measure compliance with risk-adjusted outcomes: implications for quality measurement. J Am Coll Surg. 2010 Dec;211(6):705-14.

Stulberg JJ, Delaney CP, Neuhauser DV, Aron DC, Fu P, Koroukian SM. Adherence to surgical care improvement project measures and the association with postoperative infections. JAMA. 2010 Jun 23;303(24):2479-85.

1c.8 Citations for Evidence (*other than guidelines***):** Alexander JW, Fischer JE, Boyajian M, Palmquist J, Morris MJ. The influence of hair-removal methods on wound infections. Arch Surg. 1983 Mar;118(3):347-52.

Anderson DJ, Kaye KS, Classen D, Arias KM, Podgorny K, Burstin H, Calfee DP, Coffin SE, Dubberke ER, Fraser V, Gerding DN, Griffin FA, Gross P, Klompas M, Lo E, Marschall J, Mermel LA, Nicolle L, Pegues DA, Perl TM, Saint S, Salgado CD, Weinstein RA, Wise R, Yokoe DS. Strategies to prevent surgical site infections in acute care hospitals. Infect Control Hosp Epidemiol 2008 Oct;29 Suppl 1:S51-61.

Association of Operating Room Nurses. Recommended practices for skin preparation of patients. AORN J. 2002 Jan;75(1):184-7.

Balthazar ER, Colt JD, Nichols RL. Preoperative hair removal: a random prospective study of shaving versus

clipping. South Med J. 1982 Jul;75(7):799-801.

Court-Brown CM. Preoperative skin depilation and its effect on postoperative wound infections. J R Coll Surg Edinb. 1981 Jul;26(4):238-41.

Kjonniksen I, Andersen BM, Sondenaa VG, Segadal L. Preoperative hair removal--a systematic literature review. AORN J. 2002 May;75(5):928-38, 940.

Ko W, Lazenby WD, Zelano JA, Isom OW, Krieger KH. Effects of shaving methods and intraoperative irrigation on suppurative mediastinitis after bypass operations. Ann Thorac Surg. 1992 Feb;53(2):301-5.

Powis SJ, Waterworth TA, Arkell DG. Preoperative skin preparation: clinical evaluation of depilatory cream. Br Med J. 1976 Nov 13;2(6045):1166-8.

Seropian R, Reynolds BM. Wound infections after preoperative depilatory versus razor preparation. Am J Surg. 1971 Mar;121(3):251-4.

Tanner J, Moncaster K, Woodings D. Preoperative hair removal to reduce surgical site infection. Cochrane Database Syst Rev. 2006 Jul 19;3:CD004122.

Thur de Koos P, McComas B. Shaving versus skin depilatory cream for preoperative skin preparation. A prospective study of wound infection rates. Am J Surg. 1983 Mar;145(3):377-8.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
Guideline for prevention of surgical site infection, page 266:

2. Do not remove hair preoperatively unless the hair at or around the incision site will interfere with the operation. Category IA
3. If hair is removed, remove immediately before the operation, preferably with electric clippers. Category IA

1c.10 Clinical Practice Guideline Citation: Mangram AJ, Horan TC, Pearson ML, Silver LC, Jarvis WR. Guideline for prevention of surgical site infection, 1999. Hospital Infection Control Practices Advisory Committee. Infect Control Hosp Epidemiol. 1999;20:250 -78.
1c.11 National Guideline Clearinghouse or other URL:
http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/SSI.pdf

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**
Category IA: Strongly recommended for implementation and supported by well-designed experimental, clinical, or epidemiological studies. Rating given by HICPAC.

1c.13 Method for rating strength of recommendation (*If different from USPSTF system, also describe rating and how it relates to USPSTF***):**
Category I recommendations, including IA and IB, are those recommendations that are viewed as effective by HICPAC and experts in the fields of surgery, infectious diseases, and infection control.

1c.14 Rationale for using this guideline over others:
The HICPAC/CDC guideline provides guidance for surgical care in all settings, whereas the SHEA/IDSA guideline has a acute care hospital focus.

TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Importance to Measure and Report*?	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, met? Rationale:	**1** Y☐ N☐
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	

	Eval Rating
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	

2a. MEASURE SPECIFICATIONS	

S.1 Do you have a web page where current detailed measure specifications can be obtained?
S.2 If yes, provide web page URL:

2a. Precisely Specified

2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):**
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

2a.2 Numerator Time Window (*The time period in which cases are eligible for inclusion in the numerator***):**
In-facility, prior to discharge

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

Admission: completion of registration upon entry into the facility

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
All ASC admissions with surgical site hair removal

2a.5 Target population gender: Female, Male
2a.6 Target population age range: All ages

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
In-facility, prior to discharge

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
DEFINITIONS:

Admission: completion of registration upon entry into the facility

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** ASC admissions who perform their own hair removal

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
To collect data for the denominator exclusion, centers must track patients who perform their own hair removal

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
The measure is not stratified

2a.12-13 Risk Adjustment Type: No risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
Not applicable

2a.15-17 Detailed risk model available Web page URL or attachment:

2a-specs
C ☐
P ☐
M ☐
N ☐

2a.18-19 Type of Score: Rate/proportion
2a.20 Interpretation of Score: Better quality = Higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps*)**:**
1a. The number of admissions with surgical site hair removal is determined.
1b. The number of admissions who performed their own surgical site hair removal is determined.
1c. The value determined in step 1b is subtracted from the value determined in step 1a to yield the measure denominator.

2. The number of admissions with appropriate surgical site hair removal (hair removal with razor or clippers from the scrotal area, or hair removal with clippers or depilatory cream from all other surgical sites) is determined. This value is the measure numerator.

3. The number of ASC admissions with appropriate surgical site hair removal (step 2) is divided by the number of ASC admissions with surgical site hair removal (steps 1a through 1c) during the reporting period, yielding the rate of appropriate surgical site hair removal for the reporting period.

2a.22 Describe the method for discriminating performance (*e.g., significance testing*)**:**
Facilities reporting data may compare their performance to the average performance. Alternatively, facilities may compare their performance to a percentile ranking (such as the 50th percentile (median)) to determine their relative performance.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
The measure is not based on a sample

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested***)**
Paper medical record/flow-sheet

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
Facilities may review records such as a pre-surgical checklist, nursing notes, operating room record, and operative report as needed for documentation of method of hair removal. Clinical logs designed to capture information relevant to preoperative hair removal may also be used.

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 method of hair removal for all admissions with surgical site hair removal.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL Not required http://ascquality.org/documents/ASCQualityCollaborationImplementationGuide.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL Not required http://ascquality.org/documents/ASCQualityCollaborationImplementationGuide.pdf

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested*)
Facility/Agency

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested***)**
Ambulatory Care: Amb Surgery Center

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Other   Ambulatory surgical center

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample (*description of data/sample and size*): Reliability testing was performed using a previous numerator definition (ASC admissions with surgical site hair removal with clippers or depilatory cream). The revised numerator statement (ASC admissions with surgical site hair removal with a razor or clippers from

	2b
	C☐
	P☐
	M☐
	N☐

the scrotal area, or with clippers or depilatory cream from all other surgical sites) was formulated to harmonize with the current SCIP measure for appropriate hair removal. This change impacts a very small proportion of the ASC admissions and therefore it is unlikely that this change will have a material impact on the reliability statistics.

A convenience sample of 19 ambulatory surgery centers was selected for a retrospective chart audit comparing the reported values for the measure versus the values identified from the medical record. The centers were located in twelve different states throughout the US. Services from second and third calendar quarter of 2010 were reviewed in the course of the reliability testing. One center was eliminated from the sample due to obvious data collection errors involving the numerator and denominator of the rate. This was a very small ASC (8 patients requiring hair removal) that erroneously excluded seven patients from their reported denominator and reported those same cases as having hair removal in the numerator. The errors were attributed to data entry/transcription errors.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)*:
The numerator (number of ASC admissions during the period who received hair with removal clippers or depilatory cream) and denominator (number of ASC admissions requiring hair removal during the period) values were compared for all 18 centers in the validated sample.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
The error rates at 16 of the 18 (88.9%) ASCs are zero for both the numerator and denominator. The overall error rate for the numerator and denominator were 0.2% and 0.9% respectively. The median error rates by center were zero for both the numerator and denominator. The results show an excellent level of reliability with an overall median center accuracy rate of 100%.

2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)*: Validity testing was performed using a previous numerator definition (ASC admissions with surgical site hair removal with clippers or depilatory cream). The revised 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) was formulated to harmonize with the current SCIP measure for appropriate hair removal. This change impacts a very small proportion of the ASC admissions and therefore it is unlikely that this change will have a material impact on the validity statistics.

Validity was measured via a formal consensus process. A questionnaire that included ratings of the various characteristics of the measure was distributed to 6 clinicians (RNs) who currently work in ambulatory surgery centers or have responsibility for multiple surgery centers. Two have credentials in quality and the others are involved in quality in their current positions. Responses were received from all 6 of the panel members. Respondents were asked to rate agreement with a series of statements regarding the validity of the measure on a scale from 1 to 5 (5 being the highest level of agreement).

2c.2 Analytic Method *(type of validity & rationale, method for testing)*:
Validity was measured via a formal consensus process. Five of the six respondents responded with a 5/5 rating for the question most related to content validity for this measure. Due to the high level of consensus on the primary validity question, multiple rounds of Delphi-type evaluations were not necessary. These results demonstrate a high level of agreement around the validity of the measure.

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)*:
Each attribute was measured on a 5 point Likert Scale. The attributes related to validity and average scores are listed below:
1. The measure appears to measure what it is intended to. (Median: 5.0/5.0; Mean: 4.7/5.0)
2. The measure is defined in a way that will allow for consistent interpretation of the inclusion and exclusion criteria from center to center. (Median: 5.0/5.0; Mean 4.7/5.0)
3. The data required for the measure are likely to be obtained with reasonable effort. (Median: 4.0/5.0; Mean: 4.0/5.0)
4. The data required for the measure are likely to be obtained with reasonable cost. (Median: 5.0/5.0; Mean:

2c
C☐
P☐
M☐
N☐

4.7/5.0)
5. The data required for the measure can be generated during care delivery. (Median: 5.0/5.0; Mean: 4.8/5.0)

2d. Exclusions Justified

2d.1 Summary of Evidence supporting exclusion(s):
The exclusion for this measure (ASC admissions who perform their own hair removal) was developed by expert consensus and reflects the need to focus the measure on the ASC facility´s hair removal processes and practices.

2d.2 Citations for Evidence:
No citations. Please see 2d.1. above, the exclusion for this measure (ASC admissions who perform their own hair removal) was developed by expert consensus and reflects the need to focus the measure on the ASC facility´s hair removal processes and practices.

2d.3 Data/sample *(description of data/sample and size)*: For validity testing, a questionnaire that included ratings of the various characteristics of the measure was distributed to 6 clinicians (RNs) who currently work in ambulatory surgery centers or have responsibility for multiple surgery centers. Two have credentials in quality and the others are involved in quality in their current positions. Responses were received from all 6 of the panel members.

For reliability testing of the exclusion criteria, a convenience sample of 19 ambulatory surgery centers was selected for a retrospective chart audit comparing the reported values for the measure versus the values identified from the medical record. The centers were located in twelve different states throughout the US. Services from second and third calendar quarter of 2010 were reviewed in the course of the reliability testing. One center was eliminated from the sample due to obvious data collection errors involving the numerator and denominator of the rate. This was a very small ASC (8 patients requiring hair removal) that erroneously excluded seven patients from their reported denominator and reported those same cases as having hair removal in the numerator. The errors were attributed to data entry/transcription errors.

Reliability testing was performed using a previous numerator definition (ASC admissions with surgical site hair removal with clippers or depilatory cream). The revised 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) was formulated to harmonize with the current SCIP measure for appropriate hair removal. This change impacts a very small proportion of the ASC admissions and therefore it is unlikely that this change will have a material impact on the reliability statistics.

2d.4 Analytic Method *(type analysis & rationale)*:
Validity was measured via a formal consensus process. Respondents were asked to rate agreement with the following statement from 1 to 5 (5 being the highest level of agreement): The measure is defined in a way that will allow for consistent interpretation of the inclusion and exclusion criteria from center to center.

For study of reliability, the denominator exclusion (number of ASC admissions performing their own hair removal during the period) values were compared for all 18 centers in the validated sample.

2d.5 Testing Results *(e.g., frequency, variability, sensitivity analyses)*:
Five of the six respondents responded with a 5/5 rating for the question: The measure is defined in a way that will allow for consistent interpretation of the inclusion and exclusion criteria from center to center. The average rating for this question was 4.7 with a median of 5.0. Thus the exclusion criteria were rated highly for validity.

Only two of the 18 ASCs with valid data for the reliability study reported errors in application of the exclusion criteria. The error rates for those sites were 6.7% and 6.9%. The overall error rate in application of the exclusion criteria was 0.3%.

2d
C ☐
P ☐
M ☐
N ☐
NA ☐

2e. Risk Adjustment for Outcomes/ Resource Use Measures

2e.1 Data/sample *(description of data/sample and size)*: This measure is not risk adjusted

2e
C ☐
P ☐

2e.2 Analytic Method *(type of risk adjustment, analysis, & rationale)*: Not applicable	M ☐ N ☐ NA ☐

2e.3 Testing Results *(risk model performance metrics)*:
Not applicable

2e.4 If outcome or resource use measure is not risk adjusted, provide rationale: This process measure does not require risk adjustment.

Surgical site hair removal occurs frequently in the ASC setting. The likelihood of appropriate hair removal is not dependent on risk factors based on patient characteristics. Thus we believe this measure should not be risk adjusted.

2f. Identification of Meaningful Differences in Performance	

2f.1 Data/sample from Testing or Current Use *(description of data/sample and size)*: The rates for this measure were collected for 192 ambulatory surgery centers throughout the US for services provided during the third calendar quarter of 2010.

2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance *(type of analysis & rationale)*:
Using the ASC as the unit of analysis, a 95% confidence interval around the mean appropriate surgical site hair with removal clippers or depilatory cream rate of 96% is (94%, 99%). Appropriate hair removal rates below 94% of all patients requiring hair removal would be considered statistically different from the population rate and represents a meaningful difference from the mean compliance rate as well as the gold standard of 100%.

2f.3 Provide 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 appropriate surgical site hair removal ranged from a minimum of 0% to a maximum of 100%. The mean rate was 96% (SD: 18%), while the median rate was 100%. The minimum appropriate hair removal rate of 0% as well as the fact that 7.3% of all centers reported rates lower than 100% demonstrate that there is an opportunity for improvement in this measure.

2f
C ☐
P ☐
M ☐
N ☐

2g. Comparability of Multiple Data Sources/Methods	

2g.1 Data/sample *(description of data/sample and size)*: This measure is specified for a single data source (paper medical record/flowsheet) as noted in 2a.24. above.

The data collection methodology and data source is consistent across ASCs for this measure.

2g.2 Analytic Method *(type of analysis & rationale)*:
The data collection methodology and data source is consistent across ASCs for this measure.

2g.3 Testing Results *(e.g., correlation statistics, comparison of rankings)*:
The data collection methodology and data source is consistent across ASCs for this measure.

2g
C ☐
P ☐
M ☐
N ☐
NA ☐

2h. Disparities in Care	

2h.1 If measure is stratified, provide stratified results *(scores by stratified categories/cohorts)*: This measure is not stratified.

2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:
At the present time, a federal quality reporting system has not yet been proposed or implemented for ambulatory surgical centers. We anticipate that CMS will issue its proposals for an ASC quality reporting system in the near future. When the system is implemented, we anticipate patient level demographic data will be collected in association with ASC data on hair removal practices, allowing for the detection of any

2h
C ☐
P ☐
M ☐
N ☐
NA ☐

disparities.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, met? **Rationale:**	*2* C☐ P☐ M☐ N☐

3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. ([evaluation criteria](#))	Eval Ratin g

3a. Meaningful, Understandable, and Useful Information

3a.1 Current Use: In use

3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large) (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:**
The ASC Quality Collaboration posts a public report of quality data on six ASC quality measures endorsed by the NQF on a quarterly basis. This quarterly report includes aggregated performance data on the Appropriate Surgical Site Hair Removal measure. The report for the third quarter of 2010 is available at: http://www.ascquality.org/qualityreport.cfm. Six hundred seventy-five (675) ASCs submitted data on appropriate surgical site hair removal for the third quarter 2010 report.

3a.3 If used in other programs/initiatives (If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). *If not used for QI*, state the plans to achieve use for QI within 3 years**):**
This measure is in use in several other initiatives. For example, the ASC Association includes this metric in its Outcomes Monitoring Project, which is described at http://www.ascassociation.org/outcomes/.

It is also in use in various state association quality data collection and reporting projects, including the Texas Ambulatory Surgery Center Association, located at http://tascs.org/.

In addition, the measure has been adopted by the Minnesota Department of Health (MDH) for state reporting by ASCs beginning July 2011. This is described at the MDH website at: http://www.health.state.mn.us/healthreform/measurement/adoptedrule/QualityMeasurementAppendices_101129.pdf

Testing of Interpretability   (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*)
3a.4 Data/sample (*description of data/sample and size*)**:** Interpretability testing was performed using a previous numerator definition (ASC admissions with surgical site hair removal with clippers or depilatory cream). The revised 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) was formulated to harmonize with the current SCIP measure for appropriate hair removal. This change impacts a very small proportion of the ASC admissions and therefore it is unlikely that this change will have a material impact on the interpretability statistics.

Interpretability was measured via a formal consensus process. A questionnaire that included ratings of the various characteristics of the measure was distributed to 6 clinicians (RNs) who currently work in ambulatory surgery centers or have responsibility for multiple surgery centers. Two have credentials in quality and the others are involved in quality in their current positions. Responses were received from all 6 of the panel members.

3a.5 Methods (*e.g., focus group, survey, QI project*)**:**
The survey was summarized to assess the panel's level of agreement with statements that measured the

3a
 C☐
 P☐
 M☐
 N☐

interpretability of the measure.

3a.6 Results *(qualitative and/or quantitative results and conclusions)***:**
Each attribute was measured on a 5 point Likert Scale. The attributes related to usability and average scores are listed below:
1. A provider can understand the results of the measure. (Median: 5.0/5.0; Mean: 5.0/5.0)
2. If necessary, a provider can use the results of the measure to take action. (Median: 5.0/5.0; Mean: 5.0/5.0)
3. This measure has a direct link to improving the outcome and/or process of care. (Median: 4.5/5.0; Mean: 4.3/5.0)

3b/3c. Relation to other NQF-endorsed measures

3b.1 NQF # and Title of similar or related measures:
#0301 Surgery patients with appropriate hair removal

(for NQF staff use) **Notes on similar/related endorsed or submitted measures:** Similar/related to the following endorsed measure #0301: Surgery patients with appropriate hair removal (currently undergoing maintenance review in the Surgery project).

3b. Harmonization
If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population):
3b.2 Are the measure specifications harmonized? If not, why?
#0301, Surgery patients with appropriate hair removal, is designed for hospital use. Certain, but not all, of the measure specifications have been harmonized. The most significant differences and the rationale for these differences are as follows:

The measure specifications do not include patients with no surgical site hair removal. In the aggregate, the most common procedures performed for ASC patients do not involve hair removal. For example, the most commonly performed procedures for Medicare patients in the ASC setting are cataract and after-cataract procedures, endoscopic procedures, and pain management injections. These represent over 75% of the volume of ASC procedures and none require hair removal. Knowing this, we have not included patients with no surgical site hair removal in order to minimize data collection burden for ASC providers.

Identification of the denominator population is not based on ICD-9 procedure codes, as is the case with the hospital-based measure, but rather on patient criteria that can be identified concurrent with the process of care. This was done for two reasons. First, ICD-9 procedural codes are not valid code set in the outpatient setting. Secondly, we seek to minimize provider data collection burden. Procedure codes are assigned after care has been rendered. By avoiding the use of code sets to determine the denominator, we allow providers to determine the target population during the process of care. This is a much more efficient approach, minimizing the amount of personnel and time required for data collection. This efficiency is essential for providers whose non-clinical personnel resources are limited, especially in comparison to hospitals.

Similarly, measure exclusions have been made ASC appropriate and are designed to allow concurrent data collection.

The ASC Quality Collaboration has recently updated the measure specifications to harmonize with the related SCIP hair removal measure by identifying scrotal hair removal with a razor as an appropriate hair removal methodology for that specific site. Neurosurgical cases were not addressed for this ASC measure, as patients with a current traumatic head injury are not treated in ASCs.

3b
C ☐
P ☐
M ☐
N ☐
NA ☐

3c. Distinctive or Additive Value
3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:
This hair removal measure allows outpatient surgical service providers to measure an important process of care. The measure specifications have been designed to ensure usability and feasibility in the outpatient setting.

5.1 If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the

3c
C ☐
P ☐
M ☐
N ☐
NA ☐

same target population), Describe why it is a more valid or efficient way to measure quality: As noted above, this measure offers improved efficiency of data collection for ASC providers. Patients in both the numerator and denominator populations can be identified concurrent with the process of care, avoiding the additional cost, resource use and inefficiency that results when these determinations are made retrospectively.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for _Usability?_	**3**
Steering Committee: Overall, to what extent was the criterion, _Usability_, met? **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	**Eval Ratin g**
4a. Data Generated as a Byproduct of Care Processes **4a.1-2 How are the data elements that are needed to compute measure scores generated?** Data generated as byproduct of care processes during care delivery (Data are generated and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition)	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources **4b.1 Are all the data elements available electronically?** (_elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims_) No **4b.2 If not, specify the near-term path to achieve electronic capture by most providers.** Widespread adoption of electronic health records in ambulatory surgical centers would be needed to achieve electronic capture of data elements.	**4b** C☐ P☐ M☐ N☐
4c. Exclusions **4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No **4c.2 If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ **NA** ☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Experience with this measure and feedback from users indicates that reliability is high. Most errors appear to be the result of human factors, such as data entry errors. The ASC Quality Collaboration is not aware of any unintended consequences as a result of the use of this measure.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation **4e.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/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** 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. **4e.2 Costs to implement the measure** (_costs of data collection, fees associated with proprietary measures_): The measure is designed to allow the possibility of concurrent data collection, which minimizes staff time,	**4e** C☐ P☐ M☐ N☐

effort and cost.

There are no fees associated with the use of this measure and benchmarking data is publicly available on the ASC Quality Collaboration´s website.

4e.3 Evidence for costs:
Evidence for costs was gathered using a previous numerator definition (ASC admissions with surgical site hair removal with clippers or depilatory cream). The revised 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) was formulated to harmonize with the current SCIP measure for appropriate hair removal. This change impacts a very small proportion of the ASC admissions and therefore it is unlikely that this change will have a material impact on the costs of data collection.

The survey used for validity and interpretability also asked respondents about the feasibility and cost of collecting data. The following two questions support the premise that the cost to collect this information is reasonable for the ASC.

Ques #3. The data required for the measure are likely to be obtained with reasonable effort. (Median: 4.0/5.0; Mean: 4.0/5.0)
Ques #4. The data required for the measure are likely to be obtained with reasonable cost. (Median: 5.0/5.0; Mean: 4.7/5.0)

4e.4 Business case documentation: Not applicable

TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, met? **Rationale:**	**4** C☐ P☐ M☐ N☐

RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	Time-limited ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	Y☐ N☐ A☐

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
ASC Quality Collaboration, 5686 Escondida Blvd S, St. Petersburg, Florida, 33715

Co.2 Point of Contact
Donna, Slosburg, BSN, LHRM, CASC, donnaslosburg@ascquality.org, 727-867-0072-

Measure Developer If different from Measure Steward
Co.3 Organization
ASC Quality Collaboration, 5686 Escondida Blvd S, St. Petersburg, Florida, 33715

Co.4 Point of Contact
Donna, Slosburg, BSN, LHRM, CASC, donnaslosburg@ascquality.org, 727-867-0072-

Co.5 Submitter If different from Measure Steward POC
Donna, Slosburg, BSN, LHRM, CASC, donnaslosburg@ascquality.org, 727-867-0072-, ASC Quality Collaboration

Co.6 Additional organizations that sponsored/participated in measure development

<div align="center">

ADDITIONAL INFORMATION

</div>

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
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. No contractors are used.

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:

AAAHC: Naomi Kuznets, PhD
Ambulatory Surgery Foundation: Debra Stinchcomb, BSN, CASC, David Shapiro, MD,
Sarah Martin, RN, BS, CASC and Marian Lowe
AMSURG: Deby Samuels, Lorri Smith RN, BSN, Linda Brooks-Belli and Kathy Wilson
AOA/HFAP: Monda Shaver, RN, BSN, CPHIT and Susan Lautner, RN, BSN, MSHL
AORN: Bev Kirchner BSN, CNOR, CASC and Bonnie Denholm, RN, MS, CNOR
ASCOA: Ann Geier RN, MS, CNOR, CASC
ASC Quality Collaboration: Donna Slosburg, BSN, LHRM, CASC
HCA: Carol Harbin, RN, BSN, MBA
The Joint Commission: Michael Kulczycki and Kathleen Domzalski
NATIONAL: Rhonda Arnwine and Terry Hawes, RN, BHA
Novamed: Cassandra Speier
NUETERRA: Rachelle Babin RN, BSN and Mary Hibdon, RN
Surgical Care Affiliates: Kim Wood, MD
Symbion: Steve Whitmore and Gina Throneberry RN, MBA, CASC
USPI: David Zarin, MD, Julie Gunderson RN, MM, CPHQ, Clint Chain, RN, BSN and Ann Shimek RN, BSN, CASC

Ad.2 If adapted, provide name of original measure: Not adapted
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2008
Ad.7 Month and Year of most recent revision: 03, 2011
Ad.8 What is your frequency for review/update of this measure? Annually, or more frequently if indicated
Ad.9 When is the next scheduled review/update for this measure? 03, 2012

Ad.10 Copyright statement/disclaimers: None

Ad.11 -13 Additional Information web page URL or attachment:

Date of Submission (*MM/DD/YY*): 03/28/2011