NATIONAL QUALITY FORUM

Measure Submission and Evaluation Worksheet 5.0

This form contains the information submitted by measure developers/stewards, organized according to NQF's measure evaluation criteria and process. The evaluation criteria, evaluation guidance documents, and a blank online submission form are available on the submitting standards web page.

NQF #: 0302 **NQF Project:** Infectious Disease Project

(for Endorsement Maintenance Review)
Original Endorsement Date: Jun 07, 2012 **Most Recent Endorsement Date:** Nov 15, 2007 **Last Updated Date:** Jan 08, 2013

BRIEF MEASURE INFORMATION

De.1 **Measure Title:** Ventilator Bundle

Co.1 **Measure Steward:** Institute for Healthcare Improvement

De.2 **Brief Description of Measure:** Percentage of intensive care unit patients on mechanical ventilation at time of survey for whom all five elements of the ventilator bundle are documented and in place. The ventilator bundle elements are:
•Head of bed (HOB) elevation 30 degrees or greater (unless medically contraindicated)
•Daily ""sedation interruption" and daily assessment of readiness to extubate •Peptic ulcer disease prophylaxis
•Deep Venous Thrombosis prophylaxis
•Daily oral care with Chlorhexidine

2a1.1 **Numerator Statement:** Number of intensive care unit patients on mechanical ventilation at time of survey for whom all five elements of the ventilator bundle are documented and in place. The ventilator bundle elements are:
• Head of bed (HOB) elevation 30 degrees or greater (unless medically contraindicated); noted on 2 different shifts within a 24 hour period
• Daily "sedation interruption" and daily assessment of readiness to extubate; process includes interrupting sedation until patient follow commands and patient is assessed for discontinuation of mechanical ventilation; Parameters of discontinuation include: resolution of reason for intubation; inspired oxygen content roughly 40%; assessment of patients ability to defend airway after extubation due to heavy sedation; minute ventilation less than equal to 15 liters/minute; and respiratory rate/tidal volume less than or equal to 105/min/L(RR/TV< 105)
• Peptic ulcer disease prophylaxis
• Deep venous thrombosis prophylaxis
• Daily oral care with Chlorhexidine

2a1.4 **Denominator Statement:** Total number of intensive care unit patients on mechanical ventilation.

2a1.8 **Denominator Exclusions:** Patients less than 18 years of age at the date of ICU admission

1.1 **Measure Type:** Composite
2a1. 25-26 **Data Source:** Electronic Health Records, Other, Paper Medical Records
2a1.33 **Level of Analysis:** Facility

1.2-1.4 **Is this measure paired with another measure?** No

De.3 **If included in a composite, please identify the composite measure** (*title and NQF number if endorsed*): Ventilator Bundle #0302

See Guidance for Definitions of Rating Scale: H=High; M=Moderate; L=Low; I=Insufficient; NA=Not Applicable

STAFF NOTES (*issues or questions regarding any criteria*)
Comments on Conditions for Consideration:
E.4 If component measures of the composite are aggregate-level measures, all must be either NQF-endorsed or submitted for consideration for NQF endorsement All component measures are NQF-endorsed measures
Is the measure untested? Yes○ No○ If untested, explain how it meets criteria for consideration for time-limited endorsement:
1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (*check De.5*)**:** **5. Similar/related endorsed or submitted measures** (*check 5.1*)**:** **Other Criteria:**
Staff Reviewer Name(s):

1. IMPACT, OPPORTUITY, EVIDENCE - 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.*** **(composite measure evaluation criteria)**
(for NQF staff use) **Specific NPP goal:**
1d.1 Describe the purpose/objective of the composite measure: The purpose/objective of the composite measure is to achieve high reliability/compliance with 5 components of the ventilator bundle, a group of evidence-based interventions for patients on mechanical ventilation. Compliance with the ventilator bundle can be measured by simple assessment of the completion of each iten. The approach has been most successful when all elements are executed together, an all-or-none strategy. **1d.2 Describe the quality construct used in developing the composite:** Patients on ventilators are at risk for several serious complications including: ventilator associated pneumonia (VAP), venous thromboembolism (VTE) and stress-induced gastrointestinal bleeding. This composite measure relies on five components, only two of which - head of bed elevation and protocol-directed sedation - are related directly to VAP. 1,2.
1e.1 Describe how the component measures/items are consistent with and representative of the quality construct: In a recent study by staff at IHI based on 35 ICU unites using this measure, a 44.5% reduction of VAP was observed for ICUs that collected and reported data on bundle compliance rates. The autors conclude that the goal-oriented nature of the bundle may improve the teamwork necessary to increase reliability of adherence to the measure. They hypothesize that when care processes are grouped into simple bundles, caregivers are more likely to implement them by making fundamental changes in how the work is done, subsequently improving outcomes. The result change in the overall delivery of care system was presumed to be the mechanism by which such drastic recuctions in VAP rates were seen. 4 1Drakulovic MB, Torres A, Bauer TT, et al. Supine body position as a risk factor for nosocomial pneumonia in mechanically ventilated patients: a randomized trial. Lancet. 1999;354:1851-1858. 2Brook AD, Ahrens TS, Schaiff R, et al. Effect of nursing-implemented sedation protocol on the duration of mechanical ventilation. Crit Care Med. 1999;27(12):2609-2615. 4Resar R, Pronovost P, Haraden C, et al. Using a bundle approach to improve ventilator care processes and reduce ventilator-associated pneumonia. Jt Comm J Qual Patient Saf. 2005;31(5):243-248.
If the component measures are combined at the patient level, complete 1a, 1b, and 1c.

If the component measures are combined at the aggregate level, skip to criterion 2, Scientific Acceptability of Measure Properties (individual measures are either NQF-endorsed or submitted individually).

1a. High Impact: H● M● L● I ●
(*The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.*)

De.4 Subject/Topic Areas *(Check all the areas that apply)*: Critical Care, Infectious Diseases (ID), Infectious Diseases (ID) : Pneumonia and respiratory infections, Respiratory, Respiratory : Pneumonia
De.5 Non-Condition Specific (*Check all the areas that apply)*: Safety, Safety : Healthcare Associated Infections

1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, A leading cause of morbidity/mortality, Frequently performed procedure

1a.2 If "Other," please describe:

1a.3 Summary of Evidence of High Impact *(Provide epidemiologic or resource use data)*:
Care Bundles, in general, are groupings of best practices with respect to a disease process that individually improve care, bith with applied together result in substantially greater improvement. The science supporting the bundle components is sufficiently established to be considered standard of care

1a.4 Citations for Evidence of High Impact cited in 1a.3: Resar R, Griffin FA, Haraden C, Nolan TW. Using Care Bundles to Improve Health Care Quality. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2012. (Available on www.IHI.org)

1b. Opportunity for Improvement: H● M● L● I ●
(*There is a demonstrated performance gap - variability or overall less than optimal performance*)

1b.1 Briefly explain the benefits (improvements in quality) envisioned by use of this measure:
In general, care bundles are groupings of best practices with respect to a disease process that individually improve care, but when applied together result in substantially greater improvement. The core elements of the bundle are evidence-based strategies that may prevent or reduce the risk of these complications.

1b.2 Summary of Data Demonstrating Performance Gap *(Variation or overall less than optimal performance across providers)*: **[*For Maintenance* –** *Descriptive statistics for performance results for this measure - distribution of scores for measured entities by quartile/decile, mean, median, SD, min, max, etc.*]**
Resar R, Griffin FA, Haraden C, Nolan TW. Using Care Bundles to Improve Health Care Quality. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2012. (Available on www.IHI.org)

1b.3 Citations for Data on Performance Gap: [*For Maintenance* – *Description of the data or sample for measure results reported in 1b.2 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]**

1b.4 Summary of Data on Disparities by Population Group: [*For Maintenance* –*Descriptive statistics for performance results for this measure by population group*]**

1b.5 Citations for Data on Disparities Cited in 1b.4: [*For Maintenance* – *Description of the data or sample for measure results reported in 1b.4 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]**

1c. Evidence (*Measure focus is a health outcome OR meets the criteria for quantity, quality, consistency of the body of evidence.*)
Is the measure focus a health outcome? Yes○ No○ <u>If not a health outcome</u>, rate the body of evidence.

Quantity: H○ M○ L○ I ○ Quality: H○ M○ L○ I ○ Consistency: H○ M○ L○ I ○

Quantity	Quality	Consistency	Does the measure pass subcriterion1c?
M-H	M-H	M-H	Yes○
L	M-H	M	Yes○ IF additional research unlikely to change conclusion that benefits to patients outweigh harms
M-H	L	M-H	Yes○ IF potential benefits to patients clearly outweigh potential harms
L-M-H	L-M-H	L	No ○

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	**Does the measure pass subcriterion1c?** Yes○ IF rationale supports relationship

1c.1 Structure-Process-Outcome Relationship *(Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome)*:

1c.2-3 Type of Evidence *(Check all that apply)*:
Selected individual studies (rather than entire body of evidence)

1c.4 Exclusions Justified

1c.5 Directness of Evidence to the Specified Measure *(State the central topic, population, and outcomes addressed in the body of evidence and identify any differences from the measure focus and measure target population)*:

1c.6 Quantity of Studies in the <u>Body of Evidence</u> *(Total number of studies, not articles)*:

1c.7 Quality of <u>Body of Evidence</u> (*Summarize the certainty or confidence in the estimates of benefits and harms to patients across studies in the body of evidence resulting from study factors. Please address: a) study design/flaws; b) directness/indirectness of the evidence to this measure (e.g., interventions, comparisons, outcomes assessed, population included in the evidence); and c) imprecision/wide confidence intervals due to few patients or events*):

1c.8 Consistency of Results <u>across Studies</u> *(Summarize the consistency of the magnitude and direction of the effect):*

1c.9 Net Benefit *(Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms)*:

1c.10 Grading of Strength/Quality of the Body of Evidence. Has the body of evidence been graded?

1c.11 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.12 System Used for Grading the Body of Evidence:

1c.13 If other, identify and describe the grading scale with definitions:

1c.14 Grade Assigned to the Body of Evidence:

1c.15 Summary of Controversy/Contradictory Evidence:

1c.16 Citations for Evidence other than Guidelines*(Guidelines addressed below)*:

1c.17 Quote verbatim, the specific guideline recommendation *(Including guideline # and/or page #)*:

1c.18 Clinical Practice Guideline Citation:

1c.19 National Guideline Clearinghouse or other URL:

1c.20 Grading of Strength of Guideline Recommendation. Has the recommendation been graded?

1c.21 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.22 System Used for Grading the Strength of Guideline Recommendation:

1c.23 If other, identify and describe the grading scale with definitions:

1c.24 Grade Assigned to the Recommendation:

1c.25 Rationale for Using this Guideline Over Others:

Based on the NQF descriptions for rating the evidence, what was the developer's assessment of the quantity, quality, and consistency of the body of evidence?
1c.26 Quantity: **1c.27** Quality: **1c.28** Consistency:
1c.29 Attach evidence submission form:
1c.30 Attach appendix for supplemental materials:

Was the threshold criterion, *Importance to Measure and Report*, met?
(*1a & 1b must be rated moderate or high and 1c yes*) Yes✪ No✪
Provide rationale based on specific subcriteria:

For a new measure if the Committee votes NO, then STOP.
For a measure undergoing endorsement maintenance, if the Committee votes NO because of 1b. (no opportunity for improvement), it may be considered for continued endorsement and all criteria need to be evaluated.

2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained?
S.1 Do you have a web page where current detailed specifications for this measure can be obtained? Yes

S.2 If yes, provide web page URL**:**
http://www.ihi.org/knowledge/Pages/Changes/ImplementtheVentilatorBundle.aspx

2a. Precisely Specified

2a.0.1 Components of the Composite. (List the components, i.e., domains/sub-composites, individual measures. If component measures are NQF-endorsed, include NQF measure number; if not NQF-endorsed, provide date of submission to NQF)

If the composite measure cannot be specified with a numerator and denominator, please consult with NQF staff.
If the component measures are combined at the aggregate level, do not include the individual measure specifications below.

2a1.1 Composite Numerator Statement *(Brief, narrative description of the measure focus or what is being measured about the target population, e.g., cases from the target population with the target process, condition, event, or outcome)***:**
Number of intensive care unit patients on mechanical ventilation at time of survey for whom all five elements of the ventilator bundle are documented and in place. The ventilator bundle elements are:
• Head of bed (HOB) elevation 30 degrees or greater (unless medically contraindicated); noted on 2 different shifts within a 24 hour period
• Daily "sedation interruption" and daily assessment of readiness to extubate; process includes interrupting sedation until patient follow commands and patient is assessed for discontinuation of mechanical ventilation; Parameters of discontinuation include: resolution of reason for intubation; inspired oxygen content roughly 40%; assessment of patients ability to defend airway after extubation due to heavy sedation; minute ventilation less than equal to 15 liters/minute; and respiratory rate/tidal volume less than or equal to 105/min/L(RR/TV< 105)
• Peptic ulcer disease prophylaxis
• Deep venous thrombosis prophylaxis
• Daily oral care with Chlorhexidine

2a1.2 Numerator Time Window *(The time period in which the target process, condition, event, or outcome is eligible for inclusion)***:**
Daily for patients on mechanical ventilation

2a1.3 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, codes with descriptors, and/or specific data collection items/responses***:**
Numerator: the number of patients on mechanical ventilation in the sample with all 5 components of the ventilator bundle documented. Sampling plan: ventilator compliance can be measured by selecting all patients in the unit(s) on a randomly selected day each week and detrmining ventilator bundle compliance. • Sample should include all vented patients. • Only patients with all 5 aspects of vent bundle in place are recorded as compliant. If a bundle element is contraindicated for a particular patient and this is documented appropriately in the medical record, then the bundle can still be considered compliant with regard to that element.

2a1.4 Composite Denominator Statement *(Brief, narrative description of the target population being measured)***:**
Total number of intensive care unit patients on mechanical ventilation.

2a1.5 Target Population Category *(Check all the populations for which the measure is specified and tested if any)***:** Elderly

2a1.6 Denominator Time Window *(The time period in which cases are eligible for inclusion)***:**

Daily for all patients on mechanical ventilation

2a1.7 Denominator Details (*All information required to identify and calculate the target population/denominator such as definitions, codes with descriptors, and/or specific data collection items/responses)*:

2a1.8 Denominator Exclusions *(Brief narrative description of exclusions from the target population)*:
Patients less than 18 years of age at the date of ICU admission

2a1.9 Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, codes with descriptors, and/or specific data collection items/responses)*:

2a1.10 Stratification Details/Variables *(All information required to stratify the measure results including the stratification variables, codes with descriptors, definitions, and/or specific data collection items/responses)*:

If the component measures are combined at the patient level and include outcomes, complete the following

2a1.11 Risk Adjustment Type *(Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13)*: No risk adjustment or risk stratification **2a1.12 If "Other," please describe:**

2a1.13 Statistical Risk Model and Variables *(Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development should be addressed in 2b4.)*:
NA

2a1.14-16 Detailed Risk Model Available at Web page URL (or attachment). Include coefficients, equations, codes with descriptors, definitions, and/or specific data collection items/responses. Attach documents only if they are not available on a webpage and keep attached file to 5 MB or less. NQF strongly prefers you make documents available at a Web page URL. Please supply login/password if needed:

2a1.17 Type of Score:

2a1.19 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)*:

2a1.20 Method of Scoring

2a1.21 If "other" scoring method, describe

2a1.22 Missing Component Score *(Indicate how missing component scores are handled)*: NA

2a1.23 Weighting:

2a1.24 If differential weighting, describe:

2a1.25 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.)***:**
NA

2a1.26 Calculation Algorithm/Measure Logic Diagram URL or attachment:

2a1.27 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)**:**
• VAP compliance can be measured by selecting all patients in the intensive care unit(s) on a randomly selected day each week and determining ventilator bundle compliance. • Sample should include all vented patients. • Only patients with all 5 aspects of vent bundle in place are recorded as compliant.

2a1.28 Data Source *(Check all the sources for which the measure is specified and tested*). If other, please describe**:**
Electronic Health Records, Other, Paper Medical Records

2a1.29 Data Source/Data Collection Instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.*)**:**

2a1.30-32 Data Source/data Collection Instrument Reference Web Page URL or Attachment:

2a1.33-35 Data Dictionary/Code Table Web Page URL or Attachment:

2a1.36 Level of Analysis (*Check the levels of analysis for which the measure is specified and tested)***:**
Facility

2a1.37 Care Setting *(Check all the settings for which the measure is specified and tested)***:**
Inpatient/Hospital

2a2. Reliability Testing. (*Reliability testing was conducted with appropriate method, scope, and adequate demonstration of reliability*.)

2a2.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
The bundle measures are self reported and would not verifiable without extensive and expensive auditing.

2a2.2 Analytic Method *(Describe method of reliability testing & rationale)***:**
NA

2a2.3 Testing Results *(Reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
NA

2b. VALIDITY. Validity, Testing, including all Threats to Validity: H○ M○ L○ I ○

2b1.1 Describe how the measure specifications *(measure focus, target population, and exclusions)* **are consistent with the evidence cited in support of the measure focus (***criterion 1c)* **and identify any differences from the evidence:**
NA

2b2. Validity Testing. (*Validity testing was conducted with appropriate method, scope, and adequate demonstration of validity.)*

2b2.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
NA

2b2.2 Analytic Method *(Describe method of validity testing and rationale; if face validity, describe systematic assessment)***:**
NA

2b2.3 Testing Results *(Statistical results, assessment of adequacy in the context of norms for the test conducted; if face validity, describe results of systematic assessment)***:**
NA

POTENTIAL THREATS TO VALIDITY. (*All potential threats to validity were appropriately tested with adequate results.*)

If the component measures are combined at the patient level, complete 2b
2b3. Measure Exclusions. (*Exclusions were supported by the clinical evidence in 1c or appropriately tested with results demonstrating the need to specify them.*)

2b3.1 Data/Sample for analysis of exclusions *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
NA

2b3.2 Analytic Method (*Describe type of analysis and rationale for examining exclusions, including exclusion related to patient preference)***:**
NA

2b3.3 Results *(Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):*
NA

If the component measures are combined at the patient level and include outcomes, complete 2e
2b4. Risk Adjustment Strategy. (*For outcome measures, adjustment for differences in case mix (severity) across measured entities was appropriately tested with adequate results.*)

2b4.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
NA

2b4.2 Analytic Method (*Describe methods and rationale for development and testing of risk model or risk stratification including selection of factors/variables)***:**

2b4.3 Testing Results *(Statistical risk model: Provide quantitative assessment of relative contribution of model risk factors; risk model performance metrics including cross-validation discrimination and calibration*

statistics, calibration curve and risk decile plot, and assessment of adequacy in the context of norms for risk models. Risk stratification: Provide quantitative assessment of relationship of risk factors to the outcome and differences in outcomes among the strata):

2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment:

2b5. Identification of Meaningful Differences in Performance. (*The performance measure scores were appropriately analyzed and discriminated meaningful differences in quality.*)

2b5.1 Data/Sample *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:

2b5.2 Analytic Method *(Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance)*:

2b5.3 Results *(Provide measure performance results/scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:
may want to go to one of the states that public reports and the website where you got it

2b6. Comparability of Multiple Data Sources/Methods. (*If specified for more than one data source, the various approaches result in comparable scores.*)

2b6.1 Data/Sample *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
NA

2b6.2 Analytic Method *(Describe methods and rationale for testing comparability of scores produced by the different data sources specified in the measure)*:

2b6.3 Testing Results *(Provide statistical results, e.g., correlation statistics, comparison of rankings; assessment of adequacy in the context of norms for the test conducted)*:

2c. Disparities in Care: H○ M○ L○ I ○ NA○ (*If applicable, the measure specifications allow identification of disparities.*)

2c.1 If measure is stratified for disparities, provide stratified results *(Scores by stratified categories/cohorts)*:

2c.2 If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:

2i. Component Item/Measure Analysis to Justify Inclusion in Composite

2i.1. Data/Sample
ALL OR NONE - NO DIFFERENTIAL WEIGHTING

2i.2. Analytic Method

2i.3. Result

2j. Component Item/Measure Analysis of Contribution to Variability in Composite Score

2j.1. Data/Sample
NA

2j.2. Analytic Method
NA

2j.3. Result
NA

2k. Analysis to Support Differential Weighting of Component Score

2k.1. Data/Sample
NA

2k.2. Analytic Method
NA

2k.3. Result
NA

2k.4. Describe how the method scoring/aggregation achieves the stated purpose and represent the quality construct
NA

2k.5. Indicate if any alternative scoring/aggregation methods were tested and why not chosen
NA

2l. Analysis of Missing Component Scores

2l.1. Data/Sample
NA

2l.2. Analytic Method
NA

2l.3. Result
NA

2.1-2.3 Supplemental Testing Methodology Information:

Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met?

(***Reliability and Validity must be rated moderate or high***) **Yes○ No○**
Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

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)**

C.1 Intended Actual/Planned Use *(Check all the planned uses for which the measure is intended)***:**
Quality Improvement (external benchmarking to organizations), Quality Improvement (Internal to the specific organization)

3.1 Current Use *(Check all that apply; for any that are checked, provide the specific program information in the following questions)*:

3a. Usefulness for Public Reporting: H○ M○ L○ I ○
(*The measure is meaningful, understandable and useful for public reporting.*)

3a.1. Use in Public Reporting - disclosure of performance results to the public at large *(If used in a public reporting program, provide name of program(s), locations, Web page URL(s)).* If not publicly reported in a national or community program, state the reason AND plans to achieve public reporting, potential reporting programs or commitments, and timeline, e.g., within 3 years of endorsement: **[*For Maintenance* –** *If not publicly reported, describe progress made toward achieving disclosure of performance results to the public at large and expected date for public reporting; provide rationale why continued endorsement should be considered.***]**
The ventilator bundle is a process/composite measure, not an outcome measure designed for public reporting.

3a.2.Provide a rationale for why the measure performance results are meaningful, understandable, and useful for public reporting. If usefulness was demonstrated (e.g., focus group, cognitive testing), describe the data, method, and results**:** DRIVE IMPROVEMENT - PATIENT SAFETY IS A HUGE PRIORITY
BUNDLE COMPLIANCE IS RELATED TO IMPROVED PT SAFETY AND DECREASED COST OUTCOMES

3.2 Use for other Accountability Functions (payment, certification, accreditation). If used in a public accountability program, provide name of program(s), locations, Web page URL(s)**:**

3b. Usefulness for Quality Improvement: H○ M○ L○ I ○
(*The measure is meaningful, understandable and useful for quality improvement.*)

3b.1. Use in QI. If used in quality improvement program, provide name of program(s), locations, Web page URL(s):
[*For Maintenance* – *If not used for QI, indicate the reasons and describe progress toward using performance results for improvement***]**.

3b.2. Provide rationale for why the measure performance results are meaningful, understandable, and useful for quality improvement. If usefulness was demonstrated *(e.g., QI initiative),* describe the data, method and results:

3d. Decomposition of Composite

3d.1 Describe the information that is available from decomposing the composite into its components

3e. Achieved Stated Purpose

3e.1 Describe how the scores from testing or use reported in 2f demonstrate that the composite achieves the stated purpose

Overall, to what extent was the criterion, *Usability*, met? H⭘ M⭘ L⭘ I ⭘
Provide rationale based on specific subcriteria:

4. FEASIBILITY

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. **(evaluation criteria)**

4a. Data Generated as a Byproduct of Care Processes: H⭘ M⭘ L⭘ I ⭘

4a.1-2 How are the data elements needed to compute measure scores generated? *(Check all that apply).*
Data used in the measure are**:**
generated by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition

4b. Electronic Sources: H⭘ M⭘ L⭘ I ⭘

4b.1 Are the data elements needed for the measure as specified available electronically *(Elements that are needed to compute measure scores are in defined, computer-readable fields)***:** Some data elements are in electronic sources

4b.2 If ALL data elements are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources:

4c. Susceptibility to Inaccuracies, Errors, or Unintended Consequences: H⭘ M⭘ L⭘ I ⭘

4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results:
Measuring compliance with the ventilator bundle is self reported by hospitals and would require extensive and expensive auditing to verify.

4d. Data Collection Strategy/Implementation: H⭘ M⭘ L⭘ I ⭘

A.2 Please check if either of the following apply (*regarding proprietary measures*)**:**
4d.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 *(e.g., fees for use of proprietary measures)***:**
This measure has been most effective when incorporated into the process of care, ie: daily assessment during patient rounding/multidisciplinary rounds. A suggested "sampling plan" - addressing sampling, timing and fequency of data collection, missing data, etc. has been tested by hospitals participating in a number of

improvement collaboratives. • VAP compliance can be measured by selecting all patients in the unit(s) on a randomly selected day each week and detrmining ventilator bundle compliance. • Sample should include all vented patients. • Only patients with all 5 aspects of vent bundle in place are recorded as compliant.

Overall, to what extent was the criterion, *Feasibility*, met? H○ M○ L○ I ○
Provide rationale based on specific subcriteria:

OVERALL SUITABILITY FOR ENDORSEMENT

Does the measure meet all the NQF criteria for endorsement? Yes○ No○
Rationale:

If the Committee votes No, STOP.
If the Committee votes Yes, the final recommendation is contingent on comparison to related and competing measures.

5. COMPARISON TO RELATED AND 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 before a final recommendation is made.

5.1 **If there are related measures *(either same measure focus or target population)* or competing measures *(both the same measure focus and same target population*), list the NQF # and title of all related and/or competing measures:**

5a. Harmonization

5a.1 **If this measure has EITHER the same measure focus OR the same target population as NQF-endorsed measure(s): Are the measure specifications completely harmonized?**

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

5b. Competing Measure(s)

5b.1 **If this measure has 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)***:**

CONTACT INFORMATION

Co.1 **Measure Steward (Intellectual Property Owner):** Institute for Healthcare Improvement, 20 University Road, Cambridge, Massachusetts, 02168

Co.2 **Point of Contact:** Diane, Jacobsen, MPH, CPHQ, djacobsen@ihi.org, 763-553-0232-

Co.3 **Measure Developer if different from Measure Steward:** Institute for Healthcare Improvement, 20 University Road, Cambridge, Massachusetts, 02168

Co.4 Point of Contact: Diane, Jacobsen, MPH, CPHQ, djacobsen@ihi.org, 763-553-0232-
Co.5 Submitter: Diane, Jacobsen, MPH, CPHQ, djacobsen@ihi.org, 763-553-0232-, Institute for Healthcare Improvement
Co.6 Additional organizations that sponsored/participated in measure development:
Co.7 Public Contact:

ADDITIONAL INFORMATION
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.**
Ad.2 If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward:
Measure Developer/Steward Updates and Ongoing Maintenance **Ad.3 Year the measure was first released:** 2001 **Ad.4 Month and Year of most recent revision:** 2012 **Ad.5 What is your frequency for review/update of this measure?** based on evidence **Ad.6 When is the next scheduled review/update for this measure?**
Ad.7 Copyright statement:
Ad.8 Disclaimers:
Ad.9 Additional Information/Comments: the ventilator bundle is a composite/process measure, not an outcome measures designed for public reporting
Date of Submission (*MM/DD/YY*)**:** 06/07/2012