

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 #: 0336 NQF Project: Pulmonary Project
(for Endorsement Maintenance Review) Original Endorsement Date: May 15, 2008 Most Recent Endorsement Date: May 15, 2008
BRIEF MEASURE INFORMATION
De.1 Measure Title: Review of Unplanned PICU Readmissions
Co.1.1 Measure Steward: Virtual PICU Systems, LLC
De.2 Brief Description of Measure: Periodic clinical review of unplanned readmissions to the PICU that occurred within 24 hours of discharge or transfer from the PICU.
2a1.1 Numerator Statement: Number of unplanned readmissions that occurred within 24 hours after discharge or transfer from the PICU for which a clinical review is documented within the specified time period (time period to be determined through pilot testing)
2a1.4 Denominator Statement: Total number of unplanned readmissions occurring within 24 hours of discharge/transfer from PICU for which clinical review is documented within specified time period, patients <18 yrs of age
2a1.8 Denominator Exclusions:
1.1 Measure Type: Process 2a1. 25-26 Data Source: Electronic Clinical Data : Electronic Health Record, Paper 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 (<i>title and NQF number if endorsed</i>): To be used with NQF measures 0334 and 0335

STAFF NOTES (<i>issues or questions regarding any criteria</i>)
Comments on Conditions for Consideration:
Is the measure untested? Yes <input type="checkbox"/> No <input type="checkbox"/> 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 (<i>check De.5</i>): 5. Similar/related endorsed or submitted measures (<i>check 5.1</i>): Other Criteria:
Staff Reviewer Name(s):

1. IMPACT, OPPORTUNITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT
Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See guidance on evidence . <i>Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria. (evaluation criteria)</i>

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): Pulmonary/Critical Care, Pulmonary/Critical Care : Critical Care

De.5 Cross Cutting Areas (Check all the areas that apply):

1a.1 Demonstrated High Impact Aspect of Healthcare: High resource use, Patient/societal consequences of poor quality

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

1a.3 Summary of Evidence of High Impact (Provide epidemiologic or resource use data):

Unplanned readmission to ICUs are associated with both increased mortality and resource utilization. Up to a four fold increase in mortality and 2.5 fold increase in hospital LOS was associated with unplanned readmission suggesting this is an important cohort to measure. (1)

Following the introduction of an outreach service the emergency admission rate to intensive care fell from 58% to 43% (p = 0.05). These emergency patients had shorter lengths of stay (4.8 days vs. 7.4 days) and had a lower mortality (28.6% vs. 23.5%, p = 0.05). The re-admission rate also fell from 5.1% to 3.3% (p = 0.05). The outreach service had a significant impact on critical care utilization. (2) This study indicates that improvements can reduce readmissions, decreasing preventable death and waste.

1a.4 Citations for Evidence of High Impact cited in 1a.3: 1) Kramer AA, Higgins TL Zimmerman JE. Intensive care unit readmissions in U.S. hospitals: patient characteristics, risk factors and outcomes. Crit Care Med 2012; 40(1) 3-10

2)Pittard AJ. Out of our reach? Assessing the impact of introducing a critical care outreach service. Anaesthesia. 2003; 58(9):882-885.

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:

The systematic review of unplanned readmissions allows for improvement efforts to reduce harm and quality waste. Failure to review these readmissions makes it impossible to identify systems based problems which merit improvement.

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.]

Unplanned readmission to ICUs are associated with both increased mortality and resource utilization. Up to a four fold increase in mortality and 2.5 fold increase in hospital LOS was associated with unplanned readmission suggesting this is an important cohort to measure. (1)

Following the introduction of an outreach service the emergency admission rate to intensive care fell from 58% to 43% (p = 0.05). These emergency patients had shorter lengths of stay (4.8 days vs. 7.4 days) and had a lower mortality (28.6% vs. 23.5%, p = 0.05). The re-admission rate also fell from 5.1% to 3.3% (p = 0.05). The outreach service had a significant impact on critical care utilization. (2) This study indicates that improvements can reduce readmissions, decreasing preventable death and waste.

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]

1) Kramer AA, Higgins TL Zimmerman JE. Intensive care unit readmissions in U.S. hospitals: patient characteristics, risk factors and outcomes. Crit Care Med 2012; 40(1) 3-10

2)Pittard AJ. Out of our reach? Assessing the impact of introducing a critical care outreach service. Anaesthesia. 2003; 58(9):882-885.

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

Population differences have not been found to be variable in pediatric intensive care therapies. A study examined whether medical resources and outcomes for children admitted to pediatric intensive care units differed according to race, gender, or insurance status. After adjustment for differences in illness severity, standardized mortality ratios and overall resource use were similar with regard to race, gender, and insurance status, but uninsured children had significantly shorter lengths of stay in the pediatric intensive care unit. Uninsured children also had significantly greater physiologic derangement on admission (mortality probability, 8.1%; 95% confidence interval [CI], 6.2-10.0) than did publicly insured (3.6%; 95% CI, 3.2-4.0) and commercially insured patients (3.7%; 95% CI, 3.3-4.1). Consistent with greater physiologic derangement, hospital mortality was higher among uninsured children than insured children.

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*]

Lopez A, Tilford J, Anand K, et al. Variation in pediatric intensive care therapies and outcomes by race, gender and insurance status. *Ped Crit Care Med* 2006; 7(1). 2-6.

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 **If not a health outcome**, 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 <input type="checkbox"/>
L	M-H	M	Yes <input type="checkbox"/> IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No <input type="checkbox"/>
M-H	L	M-H	Yes <input type="checkbox"/> IF potential benefits to patients clearly outweigh potential harms: otherwise No <input type="checkbox"/>
L-M-H	L-M-H	L	No <input type="checkbox"/>

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*):

This is a process measure intended to ultimately guide outcome improvement through the systematic identification of potential causes of unplanned readmissions, which can then be used to guide improvement efforts.

1c.2-3 Type of Evidence (*Check all that apply*):

Selected individual studies (rather than entire body of evidence)

1c.4 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*):

The published studies, while looking at different populations, have suggested that there are systems level issues which may cause readmission.

1c.5 Quantity of Studies in the Body of Evidence (*Total number of studies, not articles*): Six studies since 2005 have specifically looked at early, unplanned readmission to the ICU setting.

1c.6 Quality of Body of Evidence (*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*): The studies look at different populations making pooling of findings problematic. The time frame to be included as a readmission varies in the studies.

1c.7 Consistency of Results across Studies (*Summarize the consistency of the magnitude and direction of the effect*): While the studies varied in the inclusion criteria, the findings all indicated increased risk of morbidity and mortality among this cohort

1c.8 Net Benefit (*Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms*):

Up to a four fold increase in mortality and 2.5 fold increase in hospital LOS was associated with unplanned readmission suggesting this is an important cohort to measure. (1)

Further, improvement work has been associated with a decrease in unplanned readmissions from 5.1% to 3.3% (p = 0.05) (2)

1c.9 Grading of Strength/Quality of the Body of Evidence. Has the body of evidence been graded? No

1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.11 System Used for Grading the Body of Evidence: Other

1c.12 If other, identify and describe the grading scale with definitions: per 1c.9 above no grading has been done.

1c.13 Grade Assigned to the Body of Evidence:

1c.14 Summary of Controversy/Contradictory Evidence: None

1c.15 Citations for Evidence other than Guidelines (*Guidelines addressed below*):

1) Kramer AA, Higgins TL Zimmerman JE. Intensive care unit readmissions in U.S. hospitals: patient characteristics, risk factors and outcomes. Crit Care Med 2012; 40(1) 3-10

2) Pittard AJ. Out of our reach? Assessing the impact of introducing a critical care outreach service. Anaesthesia. 2003; 58(9):882-885.

1c.16 Quote verbatim, the specific guideline recommendation (*Including guideline # and/or page #*):

1c.17 Clinical Practice Guideline Citation:

1c.18 National Guideline Clearinghouse or other URL: none

1c.19 Grading of Strength of Guideline Recommendation. Has the recommendation been graded? No

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.21 System Used for Grading the Strength of Guideline Recommendation: Other

1c.22 If other, identify and describe the grading scale with definitions: per 1c.19 above no grading has been done.

1c.23 Grade Assigned to the Recommendation:

1c.24 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.25 Quantity: Low 1c.26 Quality: High 1c.27 Consistency: High

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

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

Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See [guidance on measure testing](#).

S.1 Measure Web Page (In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained). 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: <https://portal.myvps.org/document/NQFMeasures.pdf>

2a. RELIABILITY. Precise Specifications and Reliability Testing: H M L I

2a1. Precise Measure Specifications. (The measure specifications precise and unambiguous.)

2a1.1 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 unplanned readmissions that occurred within 24 hours after discharge or transfer from the PICU for which a clinical review is documented within the specified time period (time period to be determined through pilot testing)

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

Periodic clinical review of cases identified as unplanned PICU readmission within 24 hours of discharge or transfer. This is not to suggest review needs to occur within 24 hours.

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):

NA

2a1.4 Denominator Statement (Brief, narrative description of the target population being measured):

Total number of unplanned readmissions occurring within 24 hours of discharge/transfer from PICU for which clinical review is documented within specified time period, patients <18 yrs of age

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

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

NA

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):

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):

NA

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.):

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:

2a1.17-18. Type of Score: Count

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): Better quality = Score within a defined interval

2a1.20 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.):

There is no "better score". Instead, the intent is to review each unplanned readmission for appropriateness and potential improvement purposes.

2a1.21-23 Calculation Algorithm/Measure Logic Diagram URL or attachment:

2a1.24 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):

All patients identified as an unplanned readmission using methodology in measure 0335 undergo clinical review for improvement purposes.

2a1.25 Data Source (Check all the sources for which the measure is specified and tested). If other, please describe:

Electronic Clinical Data : Electronic Health Record, Paper Records

2a1.26 Data Source/Data Collection Instrument (Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.): No mandatory data source or collection instrument for PICU community. Potential resources include PICU-specific databases or the VPS database (myvps.org).

Thus, 2a1.27 and 2a1.30 are not applicable

2a1.27-29 Data Source/data Collection Instrument Reference Web Page URL or Attachment:

2a1.30-32 Data Dictionary/Code Table Web Page URL or Attachment:

2a1.33 Level of Analysis (Check the levels of analysis for which the measure is specified and tested): Facility

2a1.34-35 Care Setting (Check all the settings for which the measure is specified and tested): Hospital/Acute Care Facility

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):

Data from one center is available from an ongoing systematic review of unplanned readmissions within 24 hours to a PICU. This center has an average of 16.7 unplanned readmissions each year from 2003-2011.

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

All cases identified undergo qualitative clinical review.

First, there is confirmation of whether the patient was readmitted at less than 24 hours post PICU discharge/transfer.

Next, there is a confirmation of status on unplanned readmission status.

For the cases that are confirmed as an unplanned readmission within 24 hours, a chart review is performed to address the following issues:

- 1) Appropriateness of original discharge/transfer
- 2) Appropriateness of unit where patient was placed
- 3) Appropriateness of readmission (along with reason for readmission)
- 4) Contributing causes for readmission (change in patient condition, mismatch between patient needs and resources on clinical unit, incorrect decision to transfer/discharge patient, incorrect placement of patient, incorrect readmission)

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

On average, less than three patients per year were identified as incorrectly flagged as unplanned readmission (~15%). The majority of remaining unplanned readmissions were due to change in patients condition and/or is match between patient needs and resources on clinical unit.

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:

No differences were found from cited evidence other than mortality rates appear less in pediatric population than adult studies. In light of overall differences in mortality between adult and pediatric ICUS, this difference is largely expected.

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):

Data from one center is available from an ongoing systematic review of unplanned readmissions within 24 hours to a PICU. This center has an average of 16.7 unplanned readmissions each year from 2003-2011.

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

All cases identified undergo qualitative clinical review.

First, there is confirmation of whether the patient was readmitted at less than 24 hours post PICU discharge/transfer.

Next, there is a confirmation of status on unplanned readmission status.

For the cases that are confirmed as an unplanned readmission within 24 hours, a chart review is performed to address the following issues:

- 1) Appropriateness of original discharge/transfer
- 2) Appropriateness of unit where patient was placed
- 3) Appropriateness of readmission (along with reason for readmission)

4) Contributing causes for readmission (change in patient condition, mismatch between patient needs and resources on clinical unit, incorrect decision to transfer/discharge patient, incorrect placement of patient, incorrect readmission)

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*):

On average, less than three patients per year were identified as incorrectly flagged as unplanned readmission (~15%). The majority of remaining unplanned readmissions were due to change in patients condition and/or is match between patient needs and resources on clinical unit.

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

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*):

The review is limited to pediatric patients <18 years of age. No exclusions were analyzed.

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

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

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*):

Does not apply

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: This is a systematic clinical review. Once a large enough cohort is established, additional statistical analysis including risk adjustment may occur. However, this process measure is intended to drive identification of improvement opportunities and thus risk adjustment is not an important element.

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*):

As the data described is from a single center, no conclusions can be drawn regarding differences in performance between centers.

While the almost 15% rate of misidentification of patients as unplanned readmissions, this did not undermine the value of the review. Indeed, the clinical review determined that these patients were indeed planned as a readmission. However, the majority of these were (though known to need readmission by another service), failed to notify the ICU creating additional resource utilization.

Thus additional improvement resulted from these "false positive" cases.

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 meaningful differences in performance):

N/A

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):

As the data described is from a single center, no conclusions can be drawn regarding differences in performance between centers.

That said, the series of 80 PICUs submitting data to the VPS system had unscheduled readmission rate within 24 hours for data ranging from 0% to 3.14% of discharges in Q3 2011. While the result of each of these centers reviews are unknown, it is clear there is opportunity for improvement.

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

NA

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): To date, neither the published literature nor internal reviews have identified any disparities.

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

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 Purpose/ Use (Check all the purposes and/or uses for which the measure is intended): Public Reporting, Quality Improvement (Internal to the specific organization), Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

3.1 **Current Use** (Check all that apply; for any that are checked, provide the specific program information in the following questions): **Quality Improvement with Benchmarking** (external benchmarking to multiple organizations), **Quality Improvement (Internal to the specific organization)**

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.]

We are aware of no national or community programs requesting/requiring public reporting of this data. That said, this reflects issues beyond the purview of the PICU community.

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: The potential value of reporting this data is twofold. First, it would allow consumers to understand another aspect of PICU care. Second, it would allow other centers to learn from the experience of each other to guide improvements proactively. Again, the lack of opportunity for public reporting does not reflect an unwillingness to report.

It is our understand that single organizations intend to report their findings through peer reviewed literature and on web pages in the next year.

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): We are unaware of any accountability activities related to this measure.

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].

This measure (systematic clinical review of unplanned PICU readmissions) is critical for local improvement. Only through understanding this phenomenon can efforts to reduce it take place.

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: The process described in 2a2.2 provides a readily replicable framework for identifying which patients are being readmitted and why. Such a framework makes the findings easy to understand while guiding improvement.

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:

Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)

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: [The availability of data in electronic sources depends on each individual organizations resources. There is no reason the data could not be readily available in an implement EHR. Once the unplanned readmission cases are identified, then a review of the patient’s record is essential to understand why the readmission occurred. Depending on local resources, this may or may not be managed electronically, unrelated to the measure itself.](#)

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: [Short of failure to participate meaningfully, this process is not inherently error prone. As is true with any retrospective review, there is the potential for hindsight and severity bias.](#)

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*): [The presented data from one PICU is simple to acquire for review. The local standard of this PICU is to have at least three physicians participate in the review. Thus the sole feasibility issue is scheduling challenges. Because of the low volume of unplanned readmissions, this center has quarterly review meetings.](#)

[Otherwise, this is a very feasible measure.](#)

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): [Virtual PICU Systems, LLC, 4470 W Sunset Blvd, Suite 440, Los Angeles, California, 90027](#)

Co.2 Point of Contact: [Chrsitine, Gall, cgall@myvps.org, 262-439-9640-](#)

Co.3 Measure Developer if different from Measure Steward: [NACHRI \(Pedi-QS\), 401 Wythe Street, Alexandria, Virginia, 22314](#)

Co.4 Point of Contact: [Ellen, Schwalenstocker, PhD, eschwalenstocker@nachri.org, 703-797-6045-](#)

Co.5 Submitter: [Chrsitine, Gall, cgall@myvps.org, 262-439-9640-](#), [Virtual PICU Systems, LLC](#)

Co.6 Additional organizations that sponsored/participated in measure development:
[National Association of Children's Hospitals and Related Institutions, Child Health Corporation of America, Medical Management Planning, VPS](#)

Co.7 Public Contact: [Chrsitine, Gall, cgall@myvps.org, 262-439-9640-](#), [Virtual PICU Systems, LLC](#)

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: [2008](#)

Ad.4 Month and Year of most recent revision:

Ad.5 What is your frequency for review/update of this measure? [3 years](#)

Ad.6 When is the next scheduled review/update for this measure? [01, 2012](#)

Ad.7 Copyright statement:

Ad.8 Disclaimers:

Ad.9 Additional Information/Comments:

Date of Submission (*MM/DD/YY*): [10/18/2011](#)