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 #: 0232 NQF Project: Pulmonary Project
(for Endorsement Maintenance Review) Original Endorsement Date: May 01, 2007 Most Recent Endorsement Date: May 01, 2007
BRIEF MEASURE INFORMATION
De.1 Measure Title: Vital Signs for Community-Acquired Bacterial Pneumonia
Co.1.1 Measure Steward: American Medical Association - Physician Consortium for Performance Improvement
De.2 Brief Description of Measure: Percentage of patients aged 18 years and older with a diagnosis of community-acquired bacterial pneumonia with vital signs documented and reviewed
2a1.1 Numerator Statement: Patients with vital signs documented and reviewed
2a1.4 Denominator Statement: All patients aged 18 years and older with the diagnosis of community-acquired bacterial pneumonia
2a1.8 Denominator Exclusions: None
1.1 Measure Type: Process 2a1. 25-26 Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry, Paper Records 2a1.33 Level of Analysis: Clinician : Group/Practice, Clinician : Individual, Clinician : Team 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*):

STAFF NOTES (*issues or questions regarding any criteria*)
Comments on Conditions for Consideration:
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
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. *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: 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 : Pneumonia
De.5 Cross Cutting Areas (*Check all the areas that apply)*:

1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, A leading cause of morbidity/mortality, High resource use, Patient/societal consequences of poor quality, Severity of illness

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

1a.3 Summary of Evidence of High Impact *(Provide epidemiologic or resource use data)*:
Community-acquired pneumonia (CAP) is a common condition and a leading cause of morbidity and mortality. The bacterial agent Streptococcus pneumoniae is the most common etiology of community-acquired pneumonia in outpatients and hospitalized patients including those in the Intensive Care Unit (ICU). (1) Other common bacterial causes of CAP include nontypeable Haemophilus influenzae and Moraxella catarrhalis, generally in patients who have underlying bronchopulmonary disease, and S. aureus, especially during an influenza outbreak. (1)

Pneumonia and Influenza are the eighth leading cause of mortality in the United States, together accounting for approximately 56,000 deaths in 2008.(2) More than 54,000 or 96% of these deaths are attributed solely to pneumonia.(2)

CAP has a significant economic impact. Estimates suggest that the annual cost of treating CAP in the United States is $12.2 billion.(3) In 2007, CAP resulted in approximately 1.1 million hospitalizations and accounted for an estimated 4.5 million ambulatory care visits, including 32,000 visits to emergency departments.(4,5)

Approximately 10% of patients hospitalized for CAP are admitted to the intensive care unit.(6) CAP in the ICU is associated with a high mortality rate of about 30%.(7)

Additionally, CAP is one of the two most common reasons for potentially preventable hospitalizations, accounting for an estimated $7.2 billion of all preventable hospitalizations.(8)

1a.4 Citations for Evidence of High Impact cited in 1a.3:
1. Mandell LA, Wunderink RG, Anzueto A, et al. Infectious Diseases Society of America/American Thoracic Society Consensus guidelines on the management of community-acquired pneumonia in adults. Clin Infect Dis. 2007;44:S27-72.
2. Miniño AM, Xu JQ, Kochanek KD. Deaths: Preliminary Data for 2008. National Vital Statistics Reports. Vol 59. No 2. National Center for Health Statistics: Centers for Disease Control and Prevention. 2010. http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_19.pdf. Accessed January 5, 2012.
3. Colice GL, Morley MA, Asche C, Birnbaum HG. Treatment costs of community-acquired pneumonia in an employed population. Chest 2004..http://chestjournal. chestpubs.org/content/125/6/2140.full.html. Accessed January 5, 2012.
4. Hall MJ, DeFrances CJ, Williams SN, Golosinskiy A, Schwartzman A. National hospital discharge survey: 2007 summary. National health statistics reports. National Center for Health Statistics: Centers for Disease Control and Prevention. 2010. http://www.cdc.gov/nchs/data/nhsr/nhsr029.pdf. Accessed January 5, 2012.
5. Schappert SM, Rechtsteiner EA. Ambulatory medical care utilization estimates for 2007. National health statistics reports. National Center for Health Statistics: Centers for Disease Control and Prevention. 2011.
6. Renaud B, Labarére J, Coma E, et al. Risk stratification of early admission to the intensive care unit of patients with no major criteria of severe community-acquired pneumonia: development of an international prediction rule. Crit Care Med. 2009. http://ccforum.com/content/13/2/R54. Accessed January 9, 2011.
7. Restrepo MI, Mortensen EM, Velez JA, Frei C, Anzueto A. A comparative study of community-acquired pneumonia patients admitted to the ward and the ICU. Chest. 2008; 133:610-617
8. Jiang HJ, Russo CA, Barrett ML. Nationwide Frequency and Costs of Potentially Preventable Hospitalizations, 2006. Healthcare Cost and Utilization Project: Agency for Healthcare Research and Quality, Rockville, MD; 2009. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb72.jsp. Accessed January 5, 2012.

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 initial assessment of severity is crucial to almost all major clinical decisions regarding the diagnosis and treatment of CAP including the site of care.(1-4) Several processes of care are recommended to determine severity of CAP, including a physical examination that measures respiratory rate and blood pressure. The 2001 ATS guidelines state that certain physical findings including a respiratory rate >= 30 breaths/min; diastolic blood pressure <=60mm Hg or systolic blood pressure < 90 mm Hg; pulse >= 125/min; fever < 35, or >= 40 degrees; confusion or decreased level of consciousness are risk factors for adverse outcomes.(4)

The 2007 IDSA/ATS guidelines state that direct admission to an ICU or high-level monitoring unit is recommended for patients with 3 of the minor criteria for severe CAP including respiratory rate > 130 breaths/min; arterial oxygen pressure/fraction of inspired oxygen (PaO2/FiO2) ratio <250; multilobar infiltrates; confusion; blood urea nitrogen level > 20 mg/dL; leukopenia resulting from infection; thrombocytopenia; hypothermia; or hypotension requiring aggressive fluid resuscitation. (1)

1. Mandell LA, Wunderink RG, Anzueto A, et al. Infectious Diseases Society of America/American Thoracic Society Consensus guidelines on the management of community-acquired pneumonia in adults. Clin Infect Dis. 2007;44:S27-72. http://www.thoracic.org/statements/resources/mtpi/idsaats-cap.pdf. Accessed January 9, 2011.
2. Singnayagam A, Chalmers JD, Hill AT. Severity assessment in community-acquired pneumonia: a review. Q J Med. 2009;102:379–388. doi:10.1093/qjmed/hcp027
3. Levy ML, Le Jeune I, Woodhead MA et al; British Thoracic Society Community Acquired Pneumonia in Adults Guideline Group. Guidelines for the management of community acquired pneumonia in adults: 2009 update. Primary Care Respir J. 2010;19(1):21-27.
4. Niederman MS, Mandell LA, Anzueto A, et al. Guidelines for the management of adults with community-acquired pneumonia: diagnosis, assessment of severity, antimicrobial therapy and prevention. Am J Respir Crit Care Med. 2001;163(7):1730-54.

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.*]
CMS Physician Quality Reporting Initiative/System:
This measure was used in the CMS Physician Quality Reporting Initiative/System (PQRI/S) in the 2007 through 2010 claims option as well as the registry and measure group options for 2009 and 2010. There is a gap in care as shown by this 2008 data; 22.32% of patients reported on did not meet the measure.

10th percentile: 36.36 %
25th percentile: 66.67 %
50th percentile: 92.59 %
75th percentile: 100.00%
90th percentile: 100.00%

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*]
Confidential CMS PQRI 2008 Performance Information by Measure. Jan-Sept TAP file.

1b.4 Summary of Data on Disparities by Population Group: [*For Maintenance –Descriptive statistics for performance results for this measure by population group*]
Data support the existence of racial, gender and age disparities in CAP prevention, treatment and mortality.

Prevention
Vaccination to prevent pneumonia is associated with improved survival, decreased chance of respiratory failure or other complications, and decreased length of stay among hospitalized patients with community-acquired pneumonia.(1)

According to the CDC, more than 34% of adults aged 65 and older reported not ever receiving a pneumococcal vaccination. Racial disparities exist in the receipt of pneumococcal vaccine. Whites have the highest rate of pneumococcal vaccination at 67.8% while Blacks and Hispanics have lower rates of 52.5% and 51.3%, respectively.(2)

Treatment
Community-acquired pneumonia disproportionately affects the elderly. Individuals aged 65 and over are hospitalized at a rate that is almost 6 times higher as that of individuals aged 45-64 and about 23 times higher than those aged 15-44.(3)

Mortality
According to the American Lung Association, there are racial and gender disparities in the mortality rate due to pneumonia and influenza. In 2006, Black men were approximately 16% more likely to die from pneumonia and influenza than White men.(3)

Males tend to have higher death rates due to pneumonia than females. In 2006, the age adjusted death rates for females and males were 15.5 and 21.2 per 100,000, respectively.(4)

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*]

1. Fisman DN, Abrutyn E, Spaude KA, Kirchner C, Daley J. Prior pneumococcal vaccination is associated with reduced death, complications, and length of stay among hospitalized adults with community-acquired pneumonia. Clin Infect Dis. 2006;42(8):1093-1101.
2. Centers for Disease Control and Prevention. Vaccination coverage among U.S adults, 2007. National Immunization Survey. Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2008.
3. American Lung Association. Trends in Pneumonia and Influenza Morbidity and Mortality. American Lung Association, 2010.
4. Hall MJ, DeFrances CJ, Williams SN, Golosinskiy A, Schwartzman A. National hospital discharge survey: 2007 summary. National health statistics reports. National Center for Health Statistics: Centers for Disease Control and Prevention. 2010. http://www.cdc.gov/nchs/data/nhsr/nhsr029.pdf. Accessed January 5, 2012.

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☐
L	M-H	M	Yes☐ IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No☐
M-H	L	M-H	Yes☐ IF potential benefits to patients clearly outweigh potential harms: otherwise No☐
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)*:
The measure focus is the process of measuring vital signs via a physical examination of patients with community-acquired bacterial pneumonia. This process is related to assessing illness severity to help guide most clinical decisions. Assessing illness severity can help identify whether hospitalization is required or if a patient may be treated in an outpatient setting.

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

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 measure focus is on adults 18 years and older with a diagnosis of community-acquired bacterial pneumonia. According to the

IDSA/ATS 2007 guidelines, the bacterial agent Streptococcus pneumoniae is the most common etiology of community-acquired pneumonia in outpatients and hospitalized patients including those in the ICU.(1)

The documentation and review of vital signs is recommended for this population. The evidence cited for this measure is directly related to the assessment of vital signs including temperature, respiratory rate, pulse and blood pressure in order to assess severity of illness.

The 2001 ATS guideline states that certain physical findings including a respiratory rate >= 30 breaths/min; diastolic blood pressure <= 60mm Hg or systolic blood pressure < 90 mm Hg; pulse >= 125/min; fever < 35, or >= 40 degrees; confusion or decreased level of consciousness are risk factors for adverse outcomes.

The 2007 IDSA/ATS guidelines state that direct admission to an ICU or high-level monitoring unit is recommended for patients with 3 of the minor criteria for severe CAP including respiratory rate > 130 breaths/min; arterial oxygen pressure/fraction of inspired oxygen (PaO2/FiO2) ratio <250; multilobar infiltrates; confusion/disorientation; blood urea nitrogen level > 20 mg/dL; leukopenia resulting from infection; thrombocytopenia; hypothermia; or hypotension requiring aggressive fluid resuscitation.

1c.5 Quantity of Studies in the Body of Evidence *(Total number of studies, not articles*): The ATS 2001 guidelines cited three studies in support of the recommendation.

The IDSA/ATS 2007 guidelines do not address the quantity of studies supporting the recommendation but cited a total of 335 references.

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 quality of the evidence supporting the ATS 2001 guidelines recommendation is not comprehensively addressed but is described as Level II evidence.

The quality of evidence supporting the IDSA/ATS 2007 guidelines recommendation is described as Moderate recommendation; level II evidence.

1c.7 Consistency of Results across Studies *(Summarize the consistency of the magnitude and direction of the effect):* There is no explicit statement in either guideline regarding the overall consistency of results across studies supporting the guideline recommendation. The development of the ATS 2001 guidelines was by a committee composed of pulmonary, critical care, infectious disease and general internal medicine specialists, in an effort to incorporate a variety of perspectives and to create a statement that was acceptable to a wide range of physicians. The guidelines committee's process to develop the guideline and recommendations is described and based on deliberations that culminated in committee consensus that the recommendation is appropriate.

The development of the IDSA/ATS 2007 guidelines was by a committee that consisted of infectious diseases, pulmonary, and critical care physicians with interest and expertise in pulmonary infections.

1c.8 Net Benefit *(Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms)*:
The initial assessment of severity is crucial to almost all major clinical decisions regarding the diagnosis and treatment of CAP including the site of care. Using vital signs to assess illness severity can help identify whether hospitalization is required or if a patient may be treated in an outpatient setting.

1c.9 Grading of Strength/Quality of the Body of Evidence. Has the body of evidence been graded? Yes

1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias: The development of the ATS 2001 guidelines was by a committee composed of pulmonary, critical care, infectious disease and general internal medicine specialists, in an effort to incorporate a variety of perspectives and to create a statement that was acceptable to a wide range of physicians. The committee graded the evidence supporting their

recommendations.

The development of the IDSA/ATS 2007 guidelines was by a committee that consisted of infectious diseases, pulmonary, and critical care physicians with interest and expertise in pulmonary infections. This committee also graded the evidence supporting its recommendations and provided the following disclosures:

L.A.M. has received research funding from Bayer, Chiron, Ortho-McNeil, Oscient, and Pfizer; has served as a consultant to Bayer, Cempra, Novexel, Ortho-McNeil, Oscient, Pfizer, Sanofi- ventis, Targanta, and Wyeth; and has served on speakers' bureaus for Bayer, Ortho-McNeil, Oscient, Pfizer, and Sanofi-Aventis.

R.G.W. has received research funding from Chiron, Eli Lilly, Pfizer, and Wyeth; has served on the Clinical Evaluation Committee for Johnson and Johnson; has served as a clinical trial participant in studies initiated by Takeda, Biosite, Inverness Medical Intervention, Johnson and Johnson, and Altana; and has served as consultant to the Oklahoma Foundation for Medical Quality and the Centers for Medicare and Medicaid Services.

J.G.B. serves on the advisory board of Johnson and Johnson.

T.M.F. has received research funding from Binax Incorporated, Ortho-McNeil, Oscient, Pfizer, and Sanofi Aventis; has served as a consultant to Bayer, GlaxoSmithKline, Merck, Ortho-McNeil, Oscient, Pfizer, Sanofi-Aventis, Schering-Plough, andWyeth; and has served on speakers' bureaus for Abbott, GlaxoSmithKline, Merck, Ortho-McNeil, Oscient, Pfizer, Sanofi-Aventis, Schering-Plough, and Wyeth. N.A.D has received research support from Altana and Sanofi-Aventis; has served on the advisory boards for Sanofi-Aventis and AstraZeneca; and has served on the speakers' bureaus for Pfizer, Schering-Plough, Sanofi-Aventis, and Merck.

A.A. has served on the speakers' bureaus for Altana, Bayer Pharma, Boehringer-Ingelheim, Chiron, Elan, GlaxoSmithKline, Ortho-McNeil, Pfizer, and Sanofi-Aventis; has served as a consultant and on advisory boards for Altana, Bayer Pharma, Boehringer-Ingelheim, Chiron, Elan, GlaxoSmithKline, Ortho-McNeil, Pfizer, and Sanofi-Aventis; and has received research funding from BART, Bayer Pharma, Boehringer-Ingelheim, GlaxoSmithKline, and Lilly.

M.S.N. serves on the speakers' bureaus for and as a consultant to AstraZeneca, Aventis, Elan, Merck, Ortho-McNeil, Pfizer, Schering-Plough, and Wyeth.

All other authors: no conflicts..

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

1c.12 If other, identify and describe the grading scale with definitions: In grading the evidence supporting the guideline recommendations, the ATS 2001 and the IDSA/ATS 2007 guidelines committees used the following scale:
Level I (high) Evidence comes from well-conducted randomized controlled trials.
Level II (moderate) Evidence comes from well-designed, controlled trials without randomization (including cohort, patient series, and case control studies); also included any large case series in which systematic analysis of disease patterns and/or microbial etiology was conducted, as well as reports of new therapies that were not collected in a randomized fashion.
Level III (low) Evidence from case studies and expert opinion. In some instances therapy recommendations come from antibiotic susceptibility data, without clinical observations.

1c.13 Grade Assigned to the Body of Evidence: ATS 2001 - Level II; IDSA/ATS 2007 - Level II

1c.14 Summary of Controversy/Contradictory Evidence: The IDSA/ATS guidelines state that in some studies, a significant percentage of patients with community-acquired bacterial pneumonia are transferred to the ICU in the first 24–48 hours after hospitalization.
Mortality and morbidity among these patients appears to be greater than those among patients admitted directly to the ICU. Conversely, ICU resources are often overstretched in many institutions, and the admission of patients with CAP
who would not directly benefit from ICU care is also problematic. None of the published criteria for severe CAP adequately distinguishes these patients from those for whom ICU admission is necessary.

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

1c.16 Quote verbatim, the specific guideline recommendation *(Including guideline # and/or page #)*:
ATS 20001 guideline:
It is necessary to assess the severity of illness. This includes the radiographic findings (multilobar pneumonia or pleural effusion) and physical findings (respiratory rate, systolic and diastolic blood pressure, signs of dehydration and mental status). For those patients with chronic heart or lung disease, the assessment of oxygenation by pulse oximetry will help identify the need for hospitalization (page 1738)

IDSA/ATS 2007 guideline:
Direct admission to an ICU or high-level monitoring unit is recommended for patients with 3 of the minor criteria for severe CAP(Moderate recommendation; level II evidence [page S28])

1c.17 Clinical Practice Guideline Citation: ATS 2001 guideline
Niederman MS, Mandell LA, Anzueto A, et al. Guidelines for the management of adults with community-acquired pneumonia: diagnosis, assessment of severity, antimicrobial therapy and prevention. Am J Respir Crit Care Med. 2001;163(7):1730-54

IDSA/ATS 2007 guideline
Mandell LA, Wunderink RG, Anzueto A, et al. Infectious Diseases Society of America/American Thoracic Society Consensus guidelines on the management of community-acquired pneumonia in adults. Clin Infect Dis. 2007;44:S27-72.

1c.18 National Guideline Clearinghouse or other URL: ATS guideline - http://www.thoracic.org/statements/resources/mtpi/commacq1-25.pdf IDSA/ATS guideline - http://www.guideline.gov/content.aspx?id=10560

1c.19 Grading of Strength of Guideline Recommendation. Has the recommendation been graded? Yes

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias: Same as above 1C.10.

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

1c.22 If other, identify and describe the grading scale with definitions: In grading the evidence supporting the guideline recommendations, the ATS 2001 and the IDSA/ATS 2007 guidelines committees used the following scale:
Level I (high) Evidence comes from well-conducted randomized controlled trials.
Level II (moderate) Evidence comes from well-designed, controlled trials without randomization (including cohort, patient series, and case control studies); also included any large case series in which systematic analysis of disease patterns and/or microbial etiology was conducted, as well as reports of new therapies that were not collected in a randomized fashion.
Level III (low) Evidence from case studies and expert opinion. In some instances therapy recommendations come from antibiotic susceptibility data, without clinical observations.

In grading the strength of evidence supporting the guideline recommendation, the IDSA/ATS 2007 guidelines committee described the following:
Strong recommendation is that most patients should receive that intervention. Moderate or weak recommendations suggest that, even if a majority would follow the recommended management, many practitioners may not.

For the final document, a strong recommendation required >= 6 (of 12) of the members to consider it to be strong and the majority of the others to grade it as moderate.

1c.23 Grade Assigned to the Recommendation: ATS - Level II, IDSA/ATS - Moderate recommendation; level II evidence

1c.24 Rationale for Using this Guideline Over Others: It is the PCPI policy to use guidelines, which are evidence-based, applicable to physicians and other health-care providers, and developed by a national specialty organization or government agency.

In addition, the PCPI has now expanded what is acceptable as the evidence base for measures to include documented quality improvement (QI) initiatives or implementation projects that have demonstrated improvement in quality of care.

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: Moderate 1c.26 Quality: Moderate1c.27 Consistency: Moderate

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: www.physicianconsortium.org

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)*:
Patients with vital signs documented and reviewed

2a1.2 Numerator Time Window *(The time period in which the target process, condition, event, or outcome is eligible for inclusion)*:
Once for each episode of CAP during measurement period

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 Definitions:
Vital Signs – temperature, pulse, respiratory rate, and blood pressure (for the purposes of this measure)
Documented and Reviewed – May include one of the following: Clinician documentation that vital signs were reviewed, dictation by the clinician including vital signs, clinician initials in the chart that vital signs were reviewed, or other indication that vital signs had been acknowledged by the clinician

Numerator Instructions:
This measure is to be reported once for each occurrence of community-acquired bacterial pneumonia during the measurement period. Each unique occurrence is defined as a 45-day period from onset of community-acquired bacterial pneumonia.

For EHR:
eSpecification currently under development. Data elements (using Quality Data Model) required for the measure attached.

For Claims/Adminisrative:
Report CPT Category II code 2010F: Vital signs (temperature, pulse, respiratory rate, and blood pressure) documented and

reviewed

2a1.4 Denominator Statement *(Brief, narrative description of the target population being measured)*:
All patients aged 18 years and older with the diagnosis of community-acquired bacterial pneumonia

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

2a1.6 Denominator Time Window *(The time period in which cases are eligible for inclusion)*:
Each episode of CAP during 12 month measurement period

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)*:
For EHR:
eSpecification currently under development. Data elements (using Quality Data Model) required for the measure attached.

For Claims/Adminisrative:
Patients aged >= 18 years on date of encounter

AND

ICD-9-CM diagnosis codes: 481, 482.0, 482.1, 482.2, 482.30, 482.31, 482.32, 482.39, 482.40, 482.41, 482.42, 482.49, 482.81, 482.82, 482.83, 482.84, 482.89, 482.9, 483.0, 483.1, 483.8, 485, 486, 487.0
ICD-10-CM diagnosis codes: A48.1, J10.00, J10.08, J11.00, J11.08, J12.9, J13, J14, J15.0, J15.1, J15.20, J15.21, J15.29, J15.3, J15.4, J15.5, J15.6, J15.7, J15.8, J15.9, J16.0, J16.8, J18.0, J18.1, J18.8, J18.9

AND

CPT Codes: 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99281, 99282, 99283, 99284, 99285, 99291*, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350
*Clinicians utilizing the critical care code (99291) must indicate the emergency department place-of-service (23) on the Medicare Part B claim form. Both must be present on claim to meet denominator inclusion criteria.

2a1.8 Denominator Exclusions *(Brief narrative description of exclusions from the target population)*:
None

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)*:
This measure has no exclusions

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)*:
We encourage the results of this measure to be stratified by race, ethnicity, gender, and primary language, and have included these variables as recommended data elements to be collected

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.)*:
None

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: Rate/proportion

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 = Higher score

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.)*:
To calculate performance rates:
1. Find the patients who meet the initial patient population (ie, the general group of patients that the performance measure is designed to address).
2. From the patients within the initial patient population criteria, find the patients who qualify for the denominator (ie, the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial patient population and denominator are identical.
3. From the patients within the denominator, find the patients who qualify for the Numerator (ie, the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator
4. If the measure does not have exceptions, STOP. If the measure has exceptions, proceed with the following steps: From the patients who did not meet the numerator criteria, determine if the physician has documented that the patient meets any criteria for denominator exception when exceptions have been specified. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. Although the exception cases are removed from the denominator population for the performance calculation, the number of patients with valid exceptions should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Calculation algorithm is included in data dictionary/code table attachment 2a1.30.

2a1.21-23 Calculation Algorithm/Measure Logic Diagram URL or attachment:
Attachment
AMA-PCPI_Measure Calculation-Standard Measures-634624965756970517.pdf

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):
Not applicable. The measure does not require sampling or a survey

2a1.25 Data Source *(Check all the sources for which the measure is specified and tested*). If other, please describe:
Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry, 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.*): 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:
Attachment
AMA-PCPI_0232_DataElements.pdf

2a1.33 Level of Analysis (*Check the levels of analysis for which the measure is specified and tested)*: Clinician : Group/Practice, Clinician : Individual, Clinician : Team

2a1.34-35 Care Setting *(Check all the settings for which the measure is specified and tested)*: Ambulatory Care : Clinic/Urgent Care, Ambulatory Care : Clinician Office, Home Health, Hospital/Acute Care Facility, Other:Emergency Department, 'Domiciliary, Rest Home or Custodial Care Services', Post Acute/Long Term Care Facility : Nursing Home/Skilled Nursing 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)*:
Rush University Medical Center Testing Project
The data source was Electronic Medical Records in an Emergency Room setting
Data were manually abstracted from the medical records of 100 randomly selected patients from the eligible population

Brigham and Women's Hospital CAP Measure Testing
The data source was Electronic Health Records at 8 Primary Care clinics
The patient population consisted of adults with an administrative claims diagnosis of pneumonia during the measurement period
The reviewers agreed that 198 encounters to 71 different clinicians were visits for acute pneumonia; to comprise the sample population

University of Chicago Testing Project
The data source was Paper Medical Records in an Emergency Room setting
Trained abstractors reviewed a sample 151 medical records

2a2.2 Analytic Method *(Describe method of reliability testing & rationale)*:
Rush University Medical Center Testing Project
Randomly select 100 patients from the eligible population
Reviewer 1 reviewed patients 1-75 for numerator, denominator, exceptions
Reviewer 2 reviewed patients 26-100 for numerator, denominator, exceptions
Calculated inter-rater reliability on patients 26-75
Calculated parallel forms reliability on patients 1-100

Brigham and Women's Hospital CAP Measure Testing
Retrospective, cross-sectional electronic chart review
Two trained reviewers independently abstracted charts
Inter-rater reliability was calculated

University of Chicago Testing Project
A paper abstraction tool was developed from the measure specifications
A total of 151 charts were reviewed by trained research nurse abstractors
Data from the paper abstraction tools were entered into a database
Performance was calculated
Inter-rater reliability was calculated using a Kappa statistic

2a2.3 Testing Results *(Reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
Rush University Medical Center Testing Project Reliability: N, % Agreement, Kappa, (95% CI)
Overall: 100, 100%, kappa non-calculable*

Brigham and Women's Hospital Testing Reliability: N, % Agreement, Kappa, (95% CI)
Overall Reliability: rate, Kappa statistic for performance (95% CI)*:
? Vital Signs for Community-Acquired Bacterial Pneumonia
o Temperature 0.98 (0.93– 1.0)
o Systolic blood pressure 0.97 (0.91 – 1.0)
o Diastolic blood pressure 0.97 (0.91 – 1.0)
o Pulse 0.96 (0.91 – 1.0)
o Respiratory Rate 0.93 (0.87 – 0.99)

These kappa results reflect a substantial strength of agreement.

University of Chicago Testing Reliability: N, % Agreement, Kappa, (95% CI)
Overall: 100, 100%, kappa non-calculable*

* Kappa statistics cannot be calculated because of complete agreement. Confidence intervals cannot be calculated because to do so would involve dividing by zero which cannot be done.

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:
The measure focus is the process of assessing vital signs in patients 18 years of age and over with community-acquired bacterial pneumonia. The measure is specified for vital signs including temperature, pulse, respiratory rate, and blood pressure, be documented and reviewed for patients aged >= 18 years on date of encounter.

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)*:
An expert panel was used to assess face validity of the measure. This panel consisted of 23 members, with representation from a number of specialties including critical care, emergency, family, geriatrics, internal medicine and radiology.

Bruce S. Auerbach, MD, FACEP (Co-Chair)
Eric C. Schneider, MD, MSc (Co-Chair)
James G. Adams, MD, FACEP
Dennis M. Beck, MD, FACEP
Raj Behal, MD, MPH
Stephen V. Cantrill, MD, FACEP
Randall B. Case, MD, FACEP
William C. Dalsey, MD, FACEP
Andrew Eisenberg, MD, MHA
Robert Emmick, Jr., MD, FACEP
James Feldman, MD, MPH
Paul Gitman, MD, MACP
Richard T. Griffey, MD, MPH
Scott R. Gunn, MD
Steven D. Hanks, MD, MMM, FACP
Jeffrey P. Kanne, MD
Rahul Khare, MD
Sravanthi Reddy, MD
Carlotta M. Rinke, MD, FACP, MBA
Sam JW Romeo, MD, MBA
John F. Schneider, MD PhD

John. J. Skiendzielewski, MD, FACEP
Carl Tommaso, MD FSCAI

2b2.2 Analytic Method *(Describe method of validity testing and rationale; if face validity, describe systematic assessment)*:
All PCPI performance measures are assessed for content validity by expert Work Group members during the development process. Additional input on the content validity of draft measures is obtained through a 30-day public comment period and by also soliciting comments from a panel of consumer, purchaser, and patient representatives convened by the PCPI specifically for this purpose. All comments received are reviewed by the expert Work Group and the measures adjusted as needed. Other external review groups (i.e. focus groups) may be convened if there are any remaining concerns related to the content validity of the measures.

An expert panel was used to assess face validity of the measure. This panel consists of 23 members, with representation from a number of specialties including critical care, emergency, family, geriatrics, internal medicine and radiology.

The aforementioned panel was asked to rate their agreement with the following statement:

The scores obtained from the measure as specified will accurately differentiate quality across providers.

Scale 1-5, where 1=Strongly Disagree; 3=Neither Disagree nor Agree; 5=Strongly Agree

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)*:
The results of the expert panel rating of the validity statement were as follows:
N = 14 Mean rating =4.64

Frequency Distribution of Ratings
1 - 0 (Strongly Disagree)
2 - 1
3 - 0 (Neither Disagree nor Agree)
4 -2
5 - 11 (Strongly Agree)

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 specifications for this measure do not provide for exceptions

2b3.2 Analytic Method (*Describe type of analysis and rationale for examining exclusions, including exclusion related to patient preference)*:
The specifications for this measure do not provide for exceptions

2b3.3 Results *(Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):*
Not applicable

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)*:
This measure is not risk adjusted

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

This measure is not risk adjusted

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)*:
Not applicable

2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment: As a process measure, no risk adjustment is necessary.

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)*:
Rush University Medical Center Testing Project
The data source was Electronic Medical Records in an Emergency Room setting
Data were manually abstracted from the medical records of 100 randomly selected patients from the eligible population

Brigham and Women's Hospital CAP Measure Testing
The data source was Electronic Health Records at 8 Primary Care clinics
The patient population consisted of adults with an administrative claims diagnosis of pneumonia during the measurement period
The reviewers agreed that 198 encounters to 71 different clinicians were visits for acute pneumonia; to comprise the sample population

University of Chicago Testing Project
The data source was Paper Medical Records in an Emergency Room setting
Trained abstractors reviewed a sample 151 medical records

2b5.2 Analytic Method *(Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance)*:
Rush University Medical Center Testing Project
Randomly select 100 patients from the eligible population
Reviewer 1 reviewed patients 1-75 for numerator, denominator, exceptions
Reviewer 2 reviewed patients 26-100 for numerator, denominator, exceptions
Calculated inter-rater reliability on patients 26-75
Calculated parallel forms reliability on patients 1-100

Brigham and Women's Hospital CAP Measure Testing
Retrospective, cross-sectional electronic chart review
Two trained reviewers independently abstracted charts
Inter-rater reliability was calculated

University of Chicago Testing Project
A paper abstraction tool was developed from the measure specifications
A total of 151 charts were reviewed by trained research nurse abstractors
Data from the paper abstraction tools were entered into a database
Performance was calculated
Inter-rater reliability was calculated using a Kappa statistic

CMS Physician Quality Reporting Initiative/System:
This measure was used in the CMS Physician Quality Reporting Initiative/System (PQRI/S) in the 2007 through 2010 claims option as well as the registry and measure group options for 2009 and 2010

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)*:
Rush University Medical Center Testing Project
Performance Rate: 100.00%; N=100

Brigham and Women's Hospital CAP Measure Testing
Performance Rate: 56.75%; N=198

University of Chicago Testing Project
Performance Rate: 100.00%; N=151

CMS Physician Quality Reporting Initiative/System:
This measure was used in the CMS Physician Quality Reporting Initiative/System (PQRI/S) in the 2007 through 2010 claims option as well as the registry and measure group options for 2009 and 2010. There is a gap in care as shown by this 2008 data; 22.32% of patients reported on did not meet the measure.

10th percentile: 36.36 %
25th percentile: 66.67 %
50th percentile: 92.59 %
75th percentile: 100.00%
90th percentile: 100.00%

The inter-quartile range (IQR) provides a measure of the dispersion of performance. The IQR is 33.33 and indicates that 50% of physicians have performance on this measure ranging from 66.67% and 100.00% and 10% of physicians have performance rates less than or equal to 36.36%.

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)*:
Rush University Medical Center Testing Project
The data source was Electronic Medical Records in an Emergency Room setting
Data were manually abstracted from the medical records of 100 randomly selected patients from the eligible population
An automated report was produced by EHR system

2b6.2 Analytic Method *(Describe methods and rationale for testing comparability of scores produced by the different data sources specified in the measure)*:
Rush University Medical Center Testing Project
A random sample of medical records for were reviewed by two trained abstractors
An automated report was run from the electronic medical record for the performance measures
Automated measure calculation was compared to manual measure abstraction to determine parallel forms reliability

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)*:
Rush University Medical Center Testing Project: N, % Agreement, Kappa, (95% CI)
Numerator Reliability: 100, 96.2% kappa non-calculable*
Denominator Reliability: 100, 72.2% kappa non-calculable*
Overall Reliability: 100, 96.2% kappa non-calculable*

* Kappa statistics cannot be calculated because of complete agreement. Confidence intervals cannot be calculated because to do so would involve dividing by zero which cannot be done.

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)*: We encourage

the results of this measure to be stratified by race, ethnicity, gender, and primary language, and have included these variables as recommended data elements to be collected.

2c.2 If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:
The PCPI advocates that performance measure data should, where possible, be stratified by race, ethnicity, and primary language to assess disparities and initiate subsequent quality improvement activities addressing identified disparities, consistent with recent national efforts to standardize the collection of race and ethnicity data. A 2008 NQF report endorsed 45 practices including stratification by the aforementioned variables.(1) A 2009 IOM report "recommends collection of the existing Office of Management and Budget (OMB) race and Hispanic ethnicity categories as well as more fine-grained categories of ethnicity(referred to as granular ethnicity and based on one's ancestry) and language need (a rating of spoken English language proficiency of less than very well and one's preferred language for health-related encounters)."(2)

References:
(1)National Quality Forum Issue Brief (No.10). Closing the Disparities Gap in Healthcare Quality with Performance Measurement and Public Reporting. Washington, DC: NQF, August 2008.

(2)Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement. March 2010. AHRQ Publication No. 10-0058-EF. Agency for Healthcare Research and Quality, Rockville, MD. Available at: http://www.ahrq.gov/research/iomracereport. Accessed May 25, 2010.

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)*: Professional Certification or Recognition Program, Public Reporting, 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)*: Public Reporting, Professional Certification or Recognition Program, 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.*]
This measure was used in the CMS Physician Quality Reporting Initiative/System (PQRI/S) in the 2007 through 2010 claims option as well as the registry and measure group options for 2009 and 2010.

The PCPI believes that the reporting of participation information is a beneficial first step on a trajectory toward the public reporting of performance results, which is appropriate since the measure has been tested and the reliability of the performance data has been validated. Continued NQF endorsement will facilitate our ongoing progress toward this public reporting objective.

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 PCPI believes that the reporting of participation information is a beneficial first step on a trajectory toward the public reporting of performance results, which is appropriate since the measure has been tested and the reliability of the performance data has been validated. Continued NQF endorsement will facilitate our ongoing progress toward this public reporting objective.

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): This measure may be used in a Maintenance of Certification program.

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*].
All PCPI measures are suitable for use in quality improvement initiatives and are made freely available on the PCPI website and through the implementation efforts of medical specialty societies and other PCPI members. The PCPI strongly encourages the use of its measures in QI initiatives and seeks to provide information on such initiatives to PCPI members.

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 PCPI believes that the use of PCPI measures in quality improvement initiatives is a beneficial way to gather scientific data with which to improve physician performance. This is appropriate since the measure has been tested and the reliability of the performance data has been validated. NQF endorsement will facilitate our ongoing progress toward this quality improvement objective.

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)*: ALL data elements in electronic health records (EHRs)

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:
We are not aware of any unintended consequences related to this measurement.

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 was found to be reliable and feasible for implementation
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)*: None

CONTACT INFORMATION
Co.1 Measure Steward (Intellectual Property Owner): American Medical Association - Physician Consortium for Performance Improvement, 515 N State St., Chicago, Idaho, 60654 Co.2 Point of Contact: Mark S., Antman, DDS, MBA, Director, Measure Development Operations Performance Improvement, mark.antman@ama-assn.org, 312-464-5056-
Co.3 Measure Developer if different from Measure Steward: AMA-PCPI, American College of Emergency Physicians and National Committee for Quality Assurance, 515 N State St., Chicago, Idaho, 60654 Co.4 Point of Contact: Elvia, Chavarria, Senior Policy Analyst - Measure Development Operations, elvia.chavarria@ama-

assn.org, 312-464-5709-

Co.5 Submitter: Mark S., Antman, DDS, MBA, Director, Measure Development Operations Performance Improvement, mark.antman@ama-assn.org, 312-464-5056-, American Medical Association - Physician Consortium for Performance Improvement

Co.6 Additional organizations that sponsored/participated in measure development:
This measure is jointly copyrighted by the AMA-PCPI and the National Committee for Quality Assurance. The measure set was also developed in collaboration with the American College of Emergency Medicine.

Co.7 Public Contact: Mark S., Antman, DDS, MBA, Director, Measure Development Operations Performance Improvement, mark.antman@ama-assn.org, 312-464-5056-, American Medical Association - Physician Consortium for Performance Improvement

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.

Bruce S. Auerbach, MD, FACEP (Co-Chair)
Eric C. Schneider, MD, MSc (Co-Chair)
James G. Adams, MD, FACEP
Dennis M. Beck, MD, FACEP
Raj Behal, MD, MPH
Stephen V. Cantrill, MD, FACEP
Randall B. Case, MD, FACEP
William C. Dalsey, MD, FACEP
Andrew Eisenberg, MD, MHA
Robert Emmick, Jr., MD, FACEP
James Feldman, MD, MPH
Paul Gitman, MD, MACP
Richard T. Griffey, MD, MPH
Scott R. Gunn, MD
Steven D. Hanks, MD, MMM, FACP
Jeffrey P. Kanne, MD
Rahul Khare, MD
Sravanthi Reddy, MD
Carlotta M. Rinke, MD, FACP, MBA
Sam JW Romeo, MD, MBA
John F. Schneider, MD PhD
John. J. Skiendzielewski, MD, FACEP
Carl Tommaso, MD FSCAI

PCPI measures are developed through cross-specialty, multi-disciplinary work groups. All medical specialties and other health care professional disciplines participating in patient care for the clinical condition or topic under study must be equal contributors to the measure development process. In addition, the PCPI strives to include on its work groups individuals representing the perspectives of patients, consumers, private health plans, and employers. This broad-based approach to measure development ensures buy-in on the measures from all stakeholders and minimizes bias toward any individual specialty or stakeholder group. All work groups have at least two co-chairs who have relevant clinical and/or measure development expertise and who are responsible for ensuring that consensus is achieved and that all perspectives are voiced.

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: 2006
Ad.4 Month and Year of most recent revision: 12, 2011
Ad.5 What is your frequency for review/update of this measure? Coding/specification updates occur annually

Ad.6 When is the next scheduled review/update for this measure? 2012
Ad.7 Copyright statement: Physician Performance Measures (Measures) and related data specifications, developed by the American Medical Association (AMA) in collaboration with the Physician Consortium for Performance Improvement (the Consortium) and the National Committee for Quality Assurance (NCQA) pursuant to government sponsorship under subcontract 6205-05-054 with Mathematica Policy Research, Inc. under contract 500-00-0033 with Centers for Medicare & Medicaid Services. These performance Measures are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications. The Measures, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, e.g., use by health care providers in connection with their practices. Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain. Commercial uses of the Measures require a license agreement between the user and the AMA, (on behalf of the Consortium) or NCQA. Neither the AMA, NCQA, Consortium nor its members shall be responsible for any use of the Measures. THE MEASURES AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. © 2004-6 American Medical Association and National Committee for Quality Assurance. All Rights Reserved. Limited proprietary coding is contained in the Measure specifications for convenience. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets. The AMA, NCQA, the Consortium and its members disclaim all liability for use or accuracy of any Current Procedural Terminology (CPT®) or other coding contained in the specifications.
Ad.8 Disclaimers: See copyright statement above.
Ad.9 Additional Information/Comments:
Date of Submission (*MM/DD/YY*): 10/18/2011

Basic Measure Calculation:

$$\frac{(N)}{(D) - (E)} = \%$$

The PCPI strongly recommends that exception rates also be computed and reported alongside performance rates as follows:

Exception Calculation:

$$\frac{(E)}{(D)} = \%$$

Exception Types:
E= E1 (Medical Exceptions) + E2 (Patient Exceptions) + E3 (System Exceptions)
For patients who have more than one valid exception, only one exception should be be counted when calculating the exception rate

Initial Patient Population (IPP)	Denominator (D)	Numerator (N)	Denominator Exceptions (E)
Definition: The initial patient population identifies the general group of patients that the performance measureis designed to address; usually focused on a specific clinical condition (e.g., coronary artery disease, asthma). For example, a patient aged 18 years and older with a diagnosis of CADwho has at least 2 Visits during the measurement period.	**Definition:** The denominator defines the specific group of patients for inclusion in a specific performance measure based on specific criteria (e.g., patient's age, diagnosis, prior MI). In some cases, the denominator may be I dentical to the initial patient population.	**Definition:** The numerator defines the group of patients in the denominator for whom a process or outcome of care occurs (e.g., flu vaccine received).	**Definition:** Denominator exceptions are the valid reasons why patients who are included in the denominator population did not receive a process or outcome of care (described in the numerator). Patients may have Denominator Exceptions for medical reasons (e.g., patient has an egg allergy so they did not receive flu vaccine); patient reasons (e.g., patient declined flu vaccine); or system reasons (e.g., patient did not receive flu Vaccine due to vaccine shortage). These cases are removed from the denominator population for the performance calculation, however the number of patients with valid exceptions should be calculated and reported. This group of patients constitutes the Denominator Exception reporting population – patients for whom the numerator was not achieved and a there is a valid Denominator Exception.
Find the patients who meet the Initial Patient Population criteria (IPP)	Find the patients who qualify for the denominator (D): o From the patients within the Patient Population criteria (IPP) select those people who meet Denominator selection criteria. (In some cases the IPP and D are identical).	Find the patients who qualify for the Numerator (N): o From the patients within the Denominator (D) criteria, select those people who meet Numerator selection criteria. o Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator	From the patients who did not meet the Numerator criteria, determine if the patient meets any criteria for the Denominator Exception (E1 + E2+E3). If they meet any criteria, they should be removed from the Denominator for performance calculation. As a point of reference, these cases are removed from the denominator population for the performance calculation, however the number of patients with valid exceptions should be calculated and reported.

Data Elements for PCPI eSpecification

[0232] Vital Signs for Community-Acquired Bacterial Pneumonia

QDM* Standard Category	QDM* Data Type	Standard Terminology (Value Set OID)	Constraints	Value Set Name	Value of Data Element	Data Source	Comments/Rationale
Measure Timing	N/A	N/A	TBD by measure implementer	Measurement Start Date			
Measure Timing	N/A	N/A	TBD by measure implementer	Measurement End Date			
Individual Characteristic	Patient Characteristic	Gender HL7 Value Set (2.16.840.1.113883.1.11.1)	during measurement period	Gender		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	Race CDC Value Set (2.16.840.1.114222.4.11.836)	during measurement period	Race		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	Ethnicity CDC Value Set (2.16.840.1.114222.4.11.837)	during measurement period	Ethnicity		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	Payer Source of Payment Typology Value Set (2.16.840.1.113883.3.221.5)	during measurement period	Payer		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	Primary spoken language (2.16.840.1.114222.4.11.831)	during measurement period	Preferred Language		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	LOINC (2.16.840.1.113883.3.560.100.4)	starts before the start of measurement period	Birth date		• Electronic Health Record (EHR)	
Individual Characteristic	Patient Characteristic	Calculated	starts before the start of measurement period	Age	≥ 18	• Electronic Health Record (EHR)	
Condition / Diagnosis / Problem	Diagnosis, Active	ICD-9-CM, ICD-10-CM, SNOMED-CT (TBD)	during measurement period	Community-Acquired Bacterial Pneumonia (CAP)		• Electronic Health Record (EHR)	A patient may have more than one episode of CAP per measurement period. For the purposes of this measure, an episode is 45 days from the date of visit first diagnosed.
Encounter	Encounter, Performed	CPT (2.16.840.1.113883.3.464.0003.01.01.0005)	during measurement period	Office Visit, Occurrence A		• Electronic Health Record (EHR)	
Encounter	Encounter, Performed	CPT (2.16.840.1.113883.3.464.0003.01.01.0050)	during measurement period	Emergency Department Visit, Occurrence A		• Electronic Health Record (EHR)	
Encounter	Encounter, Performed	CPT (2.16.840.1.113883.3.464.0003.01.01.0055)	during measurement period	Critical Care Management, Occurrence A		• Electronic Health Record (EHR)	
Attribute	Attribute: Facility Location	SNOMED-CT (2.16.840.1.113883.3.526.02.1142)	during measurement period	Hospital Measures-Emergency Department and Critical Care		• Electronic Health Record (EHR)	This attribute is applied to OID: 2.16.840.1.113883.3.464.0003.01.01.0055
Encounter	Encounter, Performed	CPT (2.16.840.1.113883.3.464.0003.01.01.0070)	during measurement period	Care Services in Long-Term Residential Facility, Occurence A		• Electronic Health Record (EHR)	
Encounter	Encounter, Performed	CPT (2.16.840.1.113883.3.464.0003.01.01.0080)	during measurement period	Home Healthcare Services, Occurrence A		• Electronic Health Record (EHR)	
Encounter	Encounter, Performed	SNOMED-CT (2.16.840.1.113883.3.526.03.1012)	during measurement period	Patient Provider Interaction, Occurrence A		• Electronic Health Record (EHR)	
Physical Exam	Physical Exam, Findings	LOINC (TBD)	during [Encounter, Performed: Office Visit], Occurrence A; during [Encounter, Performed: Emergency Department Visit] Occurrence A; during [Encounter, Performed: Critical Care Management], Occurrence A; during [Encounter, Performed: Care Services in Long-Term Residential Facility], Occurrence A; during [Encounter, Performed: Home Healthcare Services], Occurrence A; during [Encounter, Performed: Patient Provider Interaction], Occurrence A;	Vital Signs		• Electronic Health Record (EHR)	It is expected that this numerator action will be performed and reported once for EACH episode (occurrence) of CAP. If there is more than one Encounter within 45 days, report the first Encounter during the 45 day episode period.
Attribute	Attribute: Result	n/a	n/a	Present "X"		• Electronic Health Record (EHR)	This attribute is applied to OID: TBD [Physical Exam, Performed: Vital Signs] There is no code list associated with this QDM type -- but is solely in place to capture that a result is present.
Intervention	Intervention, Performed	SNOMED-CT (TBD)	during [Encounter, Performed: Office Visit], Occurrence A; during [Encounter, Performed: Emergency Department Visit] Occurrence A; during [Encounter, Performed: Critical Care Management], Occurrence A; during [Encounter, Performed: Care Services in Long-Term Residential Facility], Occurrence A; during [Encounter, Performed: Home Healthcare Services], Occurrence A; during [Encounter, Performed: Patient Provider Interaction], Occurrence A;	'Documented and Reviewed'		• Electronic Health Record (EHR)	Must include one of the following: • Clinician documentation that vital signs were reviewed • Dictation by the clinician including vital signs • Clinician initials in the chart that vital signs were reviewed • Other indication that vital signs had been acknowledged by the clinician Discussion surrounding the capture of this concept - PENDING.
There are no valid denominator exceptions.							

*The Quality Data Model (QDM), Version 2.1, was developed by National Quality Forum (NQF).