

# 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](#).

|   |
|---|
| <b>NQF #:</b> 0617 <b>NQF Project:</b> Population Health: Prevention Project  |
| (for Endorsement Maintenance Review)<br><b>Original Endorsement Date:</b> Dec 04, 2009 <b>Most Recent Endorsement Date:</b> May 02, 2012 <b>Last Updated Date:</b> May 24, 2012   |
| <b>BRIEF MEASURE INFORMATION</b>  |
| <b>De.1 Measure Title:</b> High Risk for Pneumococcal Disease - Pneumococcal Vaccination  |
| <b>Co.1.1 Measure Steward:</b> ActiveHealth Management  |
| <b>De.2 Brief Description of Measure:</b> The percentage of patients age 5-64 with a high risk condition, or age 65 years and older who:<br>1. Received a pneumococcal vaccine (reported separately)<br>2. Had a contraindication to pneumococcal vaccine (reported separately)   |
| <b>2a1.1 Numerator Statement:</b> Two separate numerators:<br>1. Patients who receive a pneumococcal vaccine<br>2. Patients who have a contraindication to pneumococcal vaccine   |
| <b>2a1.4 Denominator Statement:</b> Patients who are between 5-64 years with a high risk condition (e.g., diabetes, heart failure, COPD, end-stage kidney disease, asplenia malignancy, solid organ transplant, on immunosuppressive medications,) or patients age 65 years and older.  |
| <b>2a1.8 Denominator Exclusions:</b> General exclusions:<br>- Evidence of metastatic disease or active treatment of malignancy (chemotherapy or radiation therapy) in the last 6 months;<br>- Patients who have been in a skilled nursing facility in the last 3 months   |
| <b>1.1 Measure Type:</b> Process<br><b>2a1. 25-26 Data Source:</b> Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Imaging/Diagnostic Study, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy, Electronic Clinical Data : Registry, Other<br><b>2a1.33 Level of Analysis:</b> Clinician : Group/Practice, Clinician : Individual, Clinician : Team, Facility, Health Plan, Integrated Delivery System, Population : Community, Population : County or City, Population : National, Population : Regional, Population : State |
| <b>1.2-1.4 Is this measure paired with another measure?</b> No  |
| <b>De.3 If included in a composite, please identify the composite measure (title and NQF number if endorsed):</b>   |

|   |
|---|
| <b>STAFF NOTES</b> <i>(issues or questions regarding any criteria)</i>  |
| <b>Comments on Conditions for Consideration:</b>  |
| <b>Is the measure untested?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> If untested, explain how it meets criteria for consideration for time-limited endorsement: |
| <b>1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (check De.5):</b>  |

5. Similar/related **endorsed** or submitted measures (check 5.1):

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](#).

**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): Prevention : Immunization

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

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

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

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

Invasive disease from *Streptococcus pneumoniae* (pneumococcus) is a major cause of illness and death in the United States, with an estimated 43,500 cases and 5,000 deaths among persons of all ages in 2009. Overall case-fatality for pneumococcal bacteremia is ~ 20% but can be higher in patients at higher risk, e.g., 60% in elderly patients.

1a.4 Citations for Evidence of High Impact cited in 1a.3: CDC. Active Bacterial Core Surveillance (ABCs) Report: Emerging Infections Program Network. *Streptococcus pneumoniae*, provisional-2009. Atlanta, GA: US Department of Health and Human Services, CDC; 2010. Available at <http://www.cdc.gov/abcs/reports-findings/survreports/spneu09.pdf>. Last accessed 7/14/2011.

Updated recommendations for prevention of invasive pneumococcal disease among adults using the 23-valent pneumococcal polysaccharide vaccine (PPSV23). Centers for Disease Control and Prevention (CDC); Advisory Committee on Immunization Practices. *MMWR Morb Mortal Wkly Rep.* 2010 Sep 3;59(34):1102-6.

Centers for Disease Control and Prevention. Chapter 11, Pneumococcal Disease. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. Atkinson W, Wolfe S, Hamborsky J, eds. 12th ed. Washington DC: Public Health Foundation, 2011. Available at <http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/pneumo.pdf>. Last accessed 7/14/2011.

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:

Use of pneumococcal vaccination in the target population is known to reduce the risk of invasive pneumococcal disease. This measure will improve the compliance for routine vaccination of target population, and reduce the risk of invasive pneumococcal disease, thereby reducing associated morbidity and mortality.

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.]**

Data from the National Health Interview Survey shows a significant performance gap in the immunization of high risk individuals with the pneumococcal vaccine. Pneumococcal vaccination coverage among high-risk adults age 19-64 years was 17.5% (95% CI 16.4% – 18.6%). Pneumococcal vaccination coverage among adults 65 years and older was at 60.6% (95% CI 59.2% – 62.1%).

Available at: <http://www.cdc.gov/vaccines/stats-surv/nhis/2009-nhis.htm>. Last accessed 2011.

**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]**  
 The report describes vaccination coverage levels for adults age 19 years and older using the 2009 National Health Interview Survey (NHIS) data. The sample size for high risk individuals, age 19 – 64 years was 8,070. The sample size for individuals age 65 years and over was 5,275.

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

Significant disparities in pneumococcal vaccination levels were noted based on individuals’ ethnicity. For high risk individuals, age 19-64 years, the pneumococcal vaccination levels for whites was 18.3% (95% CI 17.0% – 19.7%); whereas for Hispanics, it was 12.1% (95% CI 9.7% – 15%).

For individuals age 65 years and over, the vaccination rates for whites were 64.9% (95%CI 63.2% - 66.6%), for blacks it was 44.8% (95% CI 40.0 – 49.6), and for Hispanics it was 40.1% (34.9% - 45.6%)

**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]**

The report describes vaccination coverage levels for adults age 19 years and older using the 2009 National Health Interview Survey (NHIS) data. The sample size for high risk individuals, age 19 – 64 years was 8,070. The sample size for individuals age 65 years and over was 5,275.

**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?<br>Yes <input type="checkbox"/> 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 focus of this measure is primarily improvement in health outcome. The link is process to health outcome.

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

Evidence-based guideline, Randomized controlled trial, Systematic synthesis of research

**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):**

Invasive disease from *Streptococcus pneumoniae* (pneumococcus) is a major cause of illness and death in the United States. Pneumococcal vaccination in individuals with certain high-risk conditions, and in everyone over the age of 65 years, is known to

decrease the risk of invasive pneumococcal disease, and has a significant impact on related morbidity and mortality. Several clinical trials have been conducted evaluating the efficacy of the vaccine against pneumonia and pneumococcal bacteremia. Effectiveness in case-control studies generally has ranged from 56% to 81%.

According to the CDC's MMWR: "data from Active Bacterial Core surveillance (ABCs) indicate that, by 2007, the overall incidence rate of IPD [invasive pneumococcal disease] among persons of all ages had decreased by 45% (from 24.4. to 13.5 per 100,000 population), compared with 1998–1999 before PCV7 was introduced (4). Among persons aged 18–49 years, 50–64 years, and =65 years, rates of IPD decreased 40%, 18%, and 37%, respectively. The decreases resulted from reductions of 87% to 92% in cases of infection with serotypes covered in PCV7." There is significant evidence of the efficacy of vaccination in reducing IPD.

**1c.5 Quantity of Studies in the Body of Evidence** (Total number of studies, not articles):

**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):

**1c.7 Consistency of Results across Studies** (Summarize the consistency of the magnitude and direction of the effect):

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

**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:** See above.

**1c.12 If other, identify and describe the grading scale with definitions:**

**1c.13 Grade Assigned to the Body of Evidence:** The strength / quality of the evidence is not rated.

**1c.14 Summary of Controversy/Contradictory Evidence:** A 2008 Cochrane meta-analysis assessed the effectiveness of PPV in preventing disease or death in adults. It analyzed the results of 22 studies (15 RCTs involving 48,656 participants and 7 non RCTs involving 62,294 participants) assessing PPV effectiveness against invasive pneumococcal disease. Meta-analysis of the RCTs found strong evidence of PPV efficacy against IPD with no statistical heterogeneity (O.R 0.26, 95% CI 0.15 to 0.46). Efficacy against all cause pneumonia was inconclusive with substantial heterogeneity. PPV was not associated with substantial reduction in all cause mortality. Subgroup analysis of otherwise healthy adults demonstrated vaccine efficacy against various outcomes. Subgroup analysis of RCTs in adults recruited on the basis of chronic illness failed to demonstrate protective benefit of the vaccine. However, there were very few events in both intervention and control groups, and wide confidence intervals, indicating that the combined studies remained underpowered to pick up a difference. The authors concluded that there is evidence supporting the use of PPV for prevention of IPD in adults. The evidence from RCTs is less clear with respect to adults with chronic illness, which might be because of a lack of power in the studies.

A meta-analysis published in 2009 evaluated the efficacy of pneumococcal vaccination in adults. It included 22 trials involving 101 507 participants. The current 23-valent vaccine was used in only 8 trials. The relative risk (RR) was 0.64 (95% confidence interval [CI] 0.43–0.96) for presumptive pneumococcal pneumonia and 0.73 (95% CI 0.56–0.94) for all-cause pneumonia. There was significant heterogeneity between the trials reporting on presumptive pneumonia ( $I^2 = 74\%$ ,  $p < 0.001$ ) and between those reporting on all-cause pneumonia ( $I^2 = 90\%$ ,  $p < 0.001$ ). The RR for all-cause mortality was 0.97 (95% CI 0.87–1.09), with moderate heterogeneity between trials ( $I^2 = 44\%$ ,  $p = 0.053$ ). Trial quality, especially regarding double blinding, explained a substantial

proportion of the heterogeneity in the trials reporting on presumptive pneumonia and all-cause pneumonia. There was little evidence of vaccine protection in trials of higher methodologic quality (RR 1.20, 95% CI 0.75–1.92, for presumptive pneumonia; and 1.19, 95% CI 0.95–1.49, for all-cause pneumonia in double-blind trials;  $p$  for heterogeneity  $> 0.05$ ). The results for all-cause mortality in double-blind trials were similar to those in all trials combined. There was little evidence of vaccine protection among elderly patients or adults with chronic illness in analyses of all trials (RR 1.04, 95% CI 0.78–1.38, for presumptive pneumococcal pneumonia; 0.89, 95% CI 0.69–1.14, for all-cause pneumonia; and 1.00, 95% CI 0.87–1.14, for all-cause mortality). The authors concluded that pneumococcal vaccination did not appear to be effective in preventing pneumonia.

Huss A, Scott P, Stuck AE, Trotter C, Egger M. Efficacy of pneumococcal vaccination in adults: a meta-analysis. *CMAJ* 2009;180:48--58.

World Health Organization. 23-valent pneumococcal polysaccharide vaccine. WHO position paper. *Wkly Epidemiol Rec* 2008;83:373--84.

CDC. Updated Recommendations for Prevention of Invasive Pneumococcal Disease Among Adults Using the 23-Valent Pneumococcal Polysaccharide Vaccine (PPSV23). *MMWR* September 3, 2010 / 59(34);1102-1106.  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5934a3.htm#tab>

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

Piihvilii T, Lexau C, Farley MM, et al. Sustained reductions in invasive pneumococcal disease in the era of conjugate vaccine. *J Infect Dis* 2010;201:32--41.

Singleton RJ, Butler JC, Bulkow LR, et al. Invasive pneumococcal disease epidemiology and effectiveness of 23-valent pneumococcal polysaccharide vaccine in Alaska Native adults. *Vaccine* 2007;25:2288--95.

Talbot TR, Hartert TV, Mitchel E, et al. Asthma as a risk factor for invasive pneumococcal disease. *N Engl J Med* 2005;352:2082--90.

Lee TA, Weaver FM, Weiss KB. Impact of pneumococcal vaccination on pneumonia rates in patients with COPD and asthma. *J Gen Intern Med* 2007;22:62--7.

Plouffe JF, Breiman RF, Facklam RR. Bacteremia with *Streptococcus pneumoniae*: implications for therapy and prevention. Franklin County Pneumonia Study Group. *JAMA* 1996;275:194--8.

Nuorti JP, Butler JC, Farley MM, et al. Cigarette smoking and invasive pneumococcal disease. Active Bacterial Core Surveillance Team. *N Engl J Med* 2000;342:681--9.

Breiman RF, Keller DW, Phelan MA, et al. Evaluation of effectiveness of the 23-valent pneumococcal capsular polysaccharide vaccine for HIV-infected patients. *Arch Intern Med* 2000;160:2633--8.

Moberley SA, Holden J, Tatham DP, Andrews RM. Vaccines for preventing pneumococcal infection in adults. *Cochrane Database Syst Rev* 2008;(1):CD000422.

Huss A, Scott P, Stuck AE, Trotter C, Egger M. Efficacy of pneumococcal vaccination in adults: a meta-analysis. *CMAJ* 2009;180:48--58.

CDC. Active Bacterial Core Surveillance (ABCS) Report: Emerging Infections Program Network. *Streptococcus pneumoniae*, provisional-2009. Atlanta, GA: US Department of Health and Human Services, CDC; 2010. Available at <http://www.cdc.gov/abcs/reports-findings/survreports/spneu09.pdf>. Last accessed 7/14/2011.

Updated recommendations for prevention of invasive pneumococcal disease among adults using the 23-valent pneumococcal polysaccharide vaccine (PPSV23). Centers for Disease Control and Prevention (CDC); Advisory Committee on Immunization

Practices. MMWR Morb Mortal Wkly Rep. 2010 Sep 3;59(34):1102-6.

Centers for Disease Control and Prevention. Chapter 11, Pneumococcal Disease. Epidemiology and Prevention of Vaccine-Preventable Diseases. Atkinson W, Wolfe S, Hamborsky J, eds. 12th ed. Washington DC: Public Health Foundation, 2011. Available at <http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/pneumo.pdf>. Last accessed 7/14/2011.

Center for Disease Control and Prevention. Prevention of Pneumococcal Disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1997;46(RR-08):1-24.

World Health Organization. 23-valent pneumococcal polysaccharide vaccine. WHO position paper. Wkly Epidemiol Rec 2008;83:373--84.

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

Adult Immunization Schedule:

Vaccinate all persons with the following indications:

Medical: Chronic lung disease (including asthma); chronic cardiovascular diseases; diabetes mellitus; chronic liver diseases; cirrhosis; chronic alcoholism; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy [if elective splenectomy is planned, vaccinate at least 2 weeks before surgery]); immunocompromising conditions (including chronic renal failure or nephrotic syndrome); and cochlear implants and cerebrospinal fluid leaks. Vaccinate as close to HIV diagnosis as possible.

Other: Residents of nursing homes or long-term care facilities and persons who smoke cigarettes. Routine use of PPSV is not recommended for American Indians/Alaska Natives or persons aged less than 65 years unless they have underlying medical conditions that are PPSV indications. However, public health authorities may consider recommending PPSV for American Indians/Alaska Natives and persons aged 50 through 64 years who are living in areas where the risk for invasive pneumococcal disease is increased.

Childhood and adolescent immunization recommendation:

- Administer pneumococcal polysaccharide vaccine (PPSV) to children aged 2 years or older with certain underlying medical conditions, including a cochlear implant, at least 8 weeks after the last dose of PCV. A single revaccination should be administered after 5 years to children with functional or anatomic asplenia or an immunocompromising condition.

**1c.17 Clinical Practice Guideline Citation:** Centers for Disease Control and Prevention. Recommended adult immunization schedule—United States, 2011. MMWR 2011;60(4).

Updated Recommendations for Prevention of Invasive Pneumococcal Disease Among Adults Using the 23-Valent Pneumococcal Polysaccharide Vaccine (PPSV23). MMWR September 3, 2010 / 59(34);1102-1106.

Centers for Disease Control and Prevention. Recommended immunization schedules for persons aged 0–18 years—United States, 2011. MMWR 2011;60(5).

Prevention of pneumococcal disease among infants and children - use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine - recommendations of the Advisory Committee on Immunization Practices (ACIP). Nuorti JP, Whitney CG; Centers for Disease Control and Prevention (CDC). MMWR Recomm Rep. 2010 Dec 10;59(RR-11):1-18.

**1c.18 National Guideline Clearinghouse or other URL:** <http://www.cdc.gov/vaccines/recs/schedules/default.htm>

**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: [See comment above.](#)

1c.22 If other, identify and describe the grading scale with definitions:

1c.23 Grade Assigned to the Recommendation: [The CDC recommendations are not rated.](#)

1c.24 Rationale for Using this Guideline Over Others: [This is a standard, government-issued guideline, most widely followed and referred to as gold standard 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: [Moderate](#) 1c.27 Consistency: [Moderate](#)

1c.28 Attach evidence submission form:

1c.29 Attach appendix for supplemental materials:

Was the threshold criterion, *Importance to Measure and Report*, met?

(1a & 1b must be rated moderate or high and 1c yes) Yes  No

Provide rationale based on specific subcriteria:

**For a new measure if the Committee votes NO, then STOP.**

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

## 2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

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: <http://www.activehealth.net/nqf-measures.php>

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):

[Two separate numerators:](#)

1. [Patients who receive a pneumococcal vaccine](#)
2. [Patients who have a contraindication to pneumococcal vaccine](#)

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

1. [Anytime in the past.](#)
2. [Anytime in the past](#)

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):

[Two separate numerators:](#)

A. NUMERATOR for High Risk for Pneumococcal Disease - Pneumococcal Vaccination

The following is correct:

1. If Shared Common Rule Pneumococcal 23 Valent Vaccine Surrogates is confirmed (see below)

Shared Common Rule Pneumococcal 23 Valent Vaccine Surrogates

One of the following is correct:

- a. Presence of at least 1 refill VACCINE-PNEUMOCOCCAL-23 VALENT anytime in the past
- b. Presence of at least 1 VACCINE (ICD-9)-PNEUMOCOCCAL diagnosis anytime in the past
- c. Presence of at least 1 VACCINE-PNEUMOCOCCAL 23 VALENT procedure anytime in the past
- d. Presence of patient data confirming at least 1 PDD- VACCINE PPV-23 anytime in the past
- e. Presence of provider or patient feedback indicating that vaccine has already been implemented

B. Numerator for High Risk for Pneumococcal Disease - Pneumococcal Vaccine Contraindications

The following is correct:

1. If Shared Common Rule Pneumococcal Vaccine Contraindications is confirmed (see below)

Shared Common Rule Pneumococcal Vaccine Contraindications

One of the following is correct:

1. Presence of patient data confirming at least 1 PDD- Vaccine Pneumo Allergic anytime in the past
2. Presence of provider feedback indicating that vaccine is contraindicated

Code Set

| NQF ID | Numerator | Element Name         | ATOM           | Description  |
|--------|-----------|----------------------|----------------|--|
| 617    | Numerator | *PDD- VACCINE PPV-23 | AA2968.9515    | Has your child received at least 2 different types of pneumonia vaccines? = Both vaccines  |
| 617    | Numerator | *PDD- VACCINE PPV-23 | AA43.109       | (Ages 2 -70 )Have you received a pneumovax vaccine (pneumonia shot)? = Yes   |
| 617    | Numerator | *PDD- VACCINE PPV-23 | ATV22186.82718 | Have you received a pneumococcal vaccination? = Yes  |
| 617    | Numerator | *PDD- VACCINE PPV-23 | ATV43.109      | (Ages 2 -70 )Have you received a pneumovax vaccine (pneumonia shot)? = Yes   |
| 617    | Numerator | *PDD- VACCINE PPV-23 | AA12142.44915  | Have you ever had a pneumonia vaccine shot (pneumococcal vaccine)? = Yes   |
| 617    | Numerator | *PDD- VACCINE PPV-23 | ATV2968.9517   | Has your child received at least 2 different types of pneumonia vaccines? = 1 vaccine - 23 valent  |
| 617    | Numerator | *PDD- VACCINE PPV-23 | AA2968.9517    | Has your child received at least 2 different types of pneumonia vaccines? = 1 vaccine - 23 valent  |
| 617    | Numerator | *PDD- VACCINE PPV-23 | HMT38.1        | Have you had a pneumonia shot in the past 5 years? = Yes   |
| 617    | Numerator | *PDD- VACCINE PPV-23 | PHR200001023.1 | Have you ever gotten the vaccine for pneumonia? = Yes  |
| 617    | Numerator | *PDD- VACCINE PPV-23 | ATV12142.44915 | Have you ever had a pneumonia vaccine shot (pneumococcal vaccine)? = Yes   |
| 617    | Numerator | *PDD- VACCINE PPV-23 | PHR200000078.1 | The vaccine to help prevent pneumonia is given at least once depending on your age and conditions. How many times have you had this vaccine? = Once and it was in the past 5 years   |
| 617    | Numerator | *PDD- VACCINE PPV-23 | PHR200000078.2 | The vaccine to help prevent pneumonia is given at least once depending on your age and conditions. How many times have you had this vaccine? = Once and it was more than 5 years ago |
| 617    | Numerator | *PDD- VACCINE PPV-23 | ATV2968.9515   | Has your child received at least 2 different types of pneumonia vaccines? = Both vaccines  |
| 617    | Numerator | *PDD- VACCINE PPV-23 | GRDA73.1       | Have you had a pneumonia shot (sometimes   |



|  |   |                |  |  |
|--|---|----------------|--|--|
| called Pneumovax) within the past 5 years? = Yes |   |                |  |  |
| 617 Numerator                                    | *PDD- VACCINE PPV-23                              | PHR20000078.3  | The vaccine to help prevent pneumonia is given at least once depending on your age and conditions. How many times have you had this vaccine? = Two or more times |  |
| 617 Numerator                                    | *PDD- VACCINE PPV-23                              | AA22186.82718  | Have you received a pneumococcal vaccination? = Yes  |  |
| 617 Numerator                                    | *PDD- VACCINE PPV-23                              | AA16000.60173  | (Ages >70 )Have you received a pneumovax vaccine (pneumonia shot) since turning 65 yrs old? = Yes  |  |
| 617 Numerator                                    | *PDD- VACCINE PPV-23                              | ATV16000.60173 | (Ages >70 )Have you received a pneumovax vaccine (pneumonia shot) since turning 65 yrs old? = Yes  |  |
| 617 Numerator                                    | *PDD- VACCINE PPV-23                              | GORD81.1       | Have you had a pneumonia shot (sometimes called Pneumovax) within the past 5 years? = Yes  |  |
| 617 Numerator                                    | *VACCINE(ICD9)-PNEUMOCOCCAL PNEUMONE&FLU          | V06.6          | NEED PROPH VACCINATION W/STREP   |  |
| 617 Numerator                                    | *VACCINE(ICD9)-PNEUMOCOCCAL PNEUMONE              | V03.82         | NEED PROPH VACCINATION AGAINST STREP   |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL 23 VALENT YR + SUBQ/IM      | 90732          | PNEUMOCOCCAL POLYSAC VACCINE 23-V 2  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL 23 VALENT PNEUMOCOCCAL VACC | G8115          | PT DOCUMENTED TO HAVE RECEIVED   |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL 23 VALENT                   | G0009          | Administration of pneumococcal vaccine   |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL 23 VALENT                   | 4040F          | PNEUMOCOCCAL VACCINE ADMIN RCVD B/4  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 54569141200    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 00006473950    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 00006489400    | PNEUMOVAX 23 SYRINGE   |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 54868070700    | PNU-IMUNE 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 00006494300    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 54868333901    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 00005230931    | PNU-IMUNE 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 54569272000    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 00005230933    | PNU-IMUNE 23 SYRINGE   |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 54868432000    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 00006474100    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *VACCINE-PNEUMOCOCCAL-23 VALENT                   | 00006473900    | PNEUMOVAX 23 VIAL  |  |
| 617 Numerator                                    | *PDD- VACCINE PNEUMO ALLERGIC                     | AA43.70139     | (Ages 2 -70 )Have you received a pneumovax vaccine (pneumonia shot)? = No, but I am allergic or was told by my provider not to get this vaccine                  |  |
| 617 Numerator                                    | *PDD- VACCINE PNEUMO ALLERGIC                     | PHR200001023.3 | Have you ever gotten the vaccine for pneumonia? = No, but I am allergic or was told by my provider not to get this vaccine                                       |  |

|     |           |                               |                |  |
|-----|-----------|-------------------------------|----------------|--|
| 617 | Numerator | *PDD- VACCINE PNEUMO ALLERGIC | ATV3446.11100  | Was the reason why because you are allergic to the pneumonia vaccine? = Yes  |
| 617 | Numerator | *PDD- VACCINE PNEUMO ALLERGIC | ATV43.70139    | (Ages 2 -70 )Have you received a pneumovax vaccine (pneumonia shot)? = No, but I am allergic or was told by my provider not to get this vaccine                        |
| 617 | Numerator | *PDD- VACCINE PNEUMO ALLERGIC | AA22186.82719  | Have you received a pneumococcal vaccination? = No, but I am allergic or was told by my provider not to get this vaccine   |
| 617 | Numerator | *PDD- VACCINE PNEUMO ALLERGIC | AA16000.77365  | (Ages >70 )Have you received a pneumovax vaccine (pneumonia shot) since turning 65 yrs old? = No, but I am allergic or was told by my provider not to get this vaccine |
| 617 | Numerator | *PDD- VACCINE PNEUMO ALLERGIC | AA3446.11100   | Was the reason why because you are allergic to the pneumonia vaccine? = Yes  |
| 617 | Numerator | *PDD- VACCINE PNEUMO ALLERGIC | ATV22186.82719 | Have you received a pneumococcal vaccination? = No, but I am allergic or was told by my provider not to get this vaccine   |
| 617 | Numerator | *PDD- VACCINE PNEUMO ALLERGIC | ATV16000.77365 | (Ages >70 )Have you received a pneumovax vaccine (pneumonia shot) since turning 65 yrs old? = No, but I am allergic or was told by my provider not to get this vaccine |

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

Patients who are between 5-64 years with a high risk condition (e.g., diabetes, heart failure, COPD, end-stage kidney disease, asplenia malignancy, solid organ transplant, on immunosuppressive medications,) or patients age 65 years and older.

**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):

The measurement year

**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):

**DENOMINATOR**

One of the following is correct:

1. Patient age 65 and older
2. All of the following are correct:
  - a. Patient age between 5 and 64 years
  - i. One of following is correct:
    1. Presence of At Least 1 Refill IMMUNOSUPPRESSIVE RX 90 Total Days Supply In the past 6 Months
    2. Presence of At Least 2 CANCER Diagnosis in the past 12 months
    3. Presence of At Least 1 TRANSPLANT SOLID ORGAN (CPT) Procedure In the past Anytime
    4. Presence of At Least 1 TRANSPLANT SOLID ORGAN (ICD9) Diagnosis in the past anytime
    5. COPD validation is confirmed (see below)
    6. CKD Stage 5 validation is confirmed (see below)
    7. CHF Any Stage validation is confirmed (see below)

8. Diabetes adult validation is confirmed (see below)
9. Pediatric type 2 diabetes validation is confirmed (see below)
10. Pediatric type 1 diabetes validation is confirmed (see below)
11. Dialysis Chronic Validation is confirmed (see below)
12. Human Immunodeficiency Virus (HIV) validation is confirmed (see below)
13. Presence of at least 2 NEPHROTIC SYNDROME diagnosis in the past 12 months
14. All of the following are correct:
  - a. Presence of at least 1 SPLENECTOMY INDICATIONS diagnosis anytime in the past
  - b. Presence of at least 1 SPLENECTOMY procedure anytime in the past

#### VALIDATION RULES

##### COPD Validation

All of the following are correct:

1. Patient age  $\geq$  35 years
2. One of the following is correct:
  - a. Presence of at least 1 COPD diagnosis anytime in the past from EHR data
  - b. Presence of at least 1 COPD diagnosis anytime in the past from disability data
  - c. All of the following are correct:
    - i. Presence of at least 2 COPD diagnosis in the past 5 years from claims data
    - ii. One of the following is correct:
      1. Presence of at least 2 refills INHALED ANTICHOLINERGIC AND BETA-AGONIST COMBO in the past 12 months from EHR data
      2. Presence of at least 2 refills INHALED ANTICHOLINERGIC AND BETA-AGONIST COMBO in the past 12 months from claims data
      3. Presence of at least 2 refills BRONCHODILATOR (LONG ACTING) exists in the past 12 months from EHR data
      4. Presence of at least 2 refills BRONCHODILATOR (LONG ACTING) exists in the past 12 months from claims data
      5. Presence of at least 1 COPD CPT procedure in the past 12 months
      6. Presence of at least 2 refills THEOPHYLLINE in the past 12 months from EHR data

7. Presence of at least 2 refills THEOPHYLLINE in the past 12 months from claims data
8. Presence of at least 2 HOME O2 THERAPY (HCPCS) procedure in the past 12 months
9. All of the following are correct:
  - a. One of the following is correct:
    - i. Presence of at least 2 refills B-AGONIST (SHORT ACTING-INHALED) in the past 12 months from EHR data
    - ii. Presence of at least 2 refills B-AGONIST (SHORT ACTING-INHALED) in the past 12 months from claims data
  - b. One of the following is correct:
    - i. Presence of at least 2 refills INHALED ANTICHOLINERGIC DRUGS in the past 12 months from EHR data
    - ii. Presence of at least 2 refills INHALED ANTICHOLINERGIC DRUGS in the past 12 months from claims data
  - d. Presence of patient data confirming at least 1 PDD- COPD in the past

COPD Validation Exclusion

One of the following is correct:

1. Presence of at least 1 TRANSPLANT LUNG (CPT) procedure anytime in the past
2. Presence of at least 2 TRANSPLANT LUNG (ICD-9) diagnosis anytime in the past

CKD Stage 5 Validation

One of the following is correct:

1. Presence of at least 1 CKD STAGE 5 diagnosis in the past 12 months from EHR data
2. Presence of at least 1 ESRD/DIALYSIS (ICD-9) diagnosis in the past 12 months from EHR data
3. Presence of at least 1 CKD STAGE 5 diagnosis in the past 12 months from disability data
4. Presence of at least 1 ESRD/DIALYSIS (ICD-9) diagnosis in the past 12 months from disability data
5. Presence of at least 2 CKD STAGE 5 diagnosis in the past 12 months at least 3 months apart from claims data
6. Presence of at least 2 ESRD/DIALYSIS (ICD-9) diagnosis in the past 12 months at least 3 months apart from claims data
7. All of the following are correct:
  - a. Presence of at least 2 CKD - NOS diagnosis in the past 12 months at least 3 months apart from claims data
  - b. Presence of at least 1 result for creatinine clearance between 0.1 And 14 in the past
  - c. Patient age = 18 years
8. Presence of at least 2 DIALYSIS CHRONIC (CPT) procedure in the past 12 months
9. Presence of patient data confirming at least 1 PDD - DIALYSIS in the past 12 months

CKD Stage 5 Validation Exclusion

The following is correct:

1. Presence of at least 1 TRANSPLANT RENAL (CPT) procedure in the past 12 months

CHF Any Stage Validation

All of the following are correct:

1. Patient age  $\geq$  18 years
2. One of the following is correct:
  - a. Presence of at least 1 CHF (CONGESTIVE HEART FAILURE) diagnosis anytime in the past from EHR data
  - b. Presence of at least 1 CHF (CONGESTIVE HEART FAILURE) diagnosis anytime in the past from disability data
  - c. Presence of at least 1 CHF - EF  $<$ 40 procedure in the past 12 months
  - d. Presence of at least 4 CHF (CONGESTIVE HEART FAILURE) diagnosis in the past 24 months with at least a 6-month separation between claims.
  - e. All of the following are correct:
    - i. Presence of at least 2 CHF (CONGESTIVE HEART FAILURE) diagnosis anytime in the past from claims data
  1. One of following is correct:
    - a. Presence of at least 1 refill CARVEDILOL/LONG ACTING METOPROLOL 60 total days supply in the past 12 months
    - b. Presence of at least 1 refill BIDIL 60 total days supply in the past 12 months
    - c. Presence of at least 1 refill SPIRONOLACTONE/ EPLERENONE 60 total days supply in the past 12 months
    - d. All of the following are correct:
      - i. Presence of at least 1 refill ANTIHYPE/ ARB-ACEI 60 total days supply in the past 12 months
      - ii. Presence of at least 1 refill DIURETICS/ LOOP DIURETICS 60 total days supply in the past 12 months
    - e. All of the following are correct:
      - i. Presence of at least 1 refill HYDRALAZINE 60 total days supply in the past 12 months
      - ii. Presence of at least 1 refill NITRATES-LONG ACTING 60 total days supply in the past 12 months
    - f. All of the following are correct:
      - i. Presence of at least 1 refill DIGOXIN 60 total days supply in the past 12 months

- ii. Exclusion – Presence of at least 2 ATRIAL FIBRILLATION diagnosis in the past 12 months
- f. Presence of patient data confirming at least 1 PDD- EJECTION FRACTION VALUE result < 40 in the past
- g. Presence of patient data confirming at least 1 PDD- CHF in the past

CHF Any Stage Validation Exclusion

One of the following is correct:

- 1. Presence of at least 1 VALVE SURGERY procedure in the past 6 months
- 2. Presence of at least 1 VALVE REPLACEMENT diagnosis in the past 6 months
- 3. Presence of at least 1 TRANSPLANT HEART (ICD-9) diagnosis anytime in the past from EHR data
- 4. Presence of at least 1 TRANSPLANT HEART (ICD-9) diagnosis anytime in the past from disability data
- 5. Presence of at least 2 TRANSPLANT HEART (ICD-9) diagnosis anytime in the past from claims data
- 6. Presence of at least 1 TRANSPLANT HEART (CPT) procedure anytime in the past

Diabetes Adult Validation

All of the following are correct:

- 1. Patient age  $\geq$  18 years
- 2. One of the following is correct:
  - a. Presence of at least DIABETES MELLITUS diagnosis anytime in the past from EHR data
  - b. Presence of at least DIABETES MELLITUS diagnosis anytime in the past from disability data
  - c. Presence of at least 4 DIABETES MELLITUS diagnosis in the past 12 months with at least a 3 month separation between claims
  - d. All of the following are correct:
    - i. Presence of at least 1 DIABETES MELLITUS diagnosis in the past 5 years beginning at least 1 month in the past
    - ii. One of the following is correct:
      - 1. Presence of at least 2 refills DM MEDS AND SUPPLIES exists in the past 12 months from EHR data
      - 2. Presence of at least 2 refills DM MEDS AND SUPPLIES exists in the past 12 months from claims data
      - 3. Presence of at least 2 DM MEDS AND SUPPLIES (HCPCS) procedure in the past 12 months
      - 4. Presence of at least 1 INSULIN THERAPY (HCPCS) procedure in the past 12 months
      - 5. Presence of at least 1 HBA1C VALUE > 7.5 in the past 12 months

e. Presence of patient data confirming at least 1 PDD- DIABETES in the past 24 months

Diabetes Validation Exclusion

One of the following is correct:

1. Presence of 2 DIABETES STEROID-INDUCED diagnosis in the past 12 months
2. All of the following are correct:
  - Presence of at least 2 GESTATIONAL DM/POLYCYSTIC OVARIES diagnosis in the past 12 months
  - Female gender

Pediatric Type 1 Diabetes Validation

All of the following are correct:

1. Patient age is between 2 and 18 years
2. One of the following is correct:
  - a. All of the following are correct:
    - i. Presence of at least 2 DIABETES TYPE 1 diagnosis in the past 5 years
    - ii. One of the following is correct:
      1. Presence of at least 2 refills DM MEDS AND SUPPLIES exists in the past 12 months
      2. Presence of at least 2 DM MEDS AND SUPPLIES (HCPCS) procedure in the past 12 months
      3. Presence of at least 1 refill DM MEDS/INSULIN exists in the past 6 months
      4. Presence of at least 1 refill of INSULIN (ICD9) diagnosis in the past 12 months
  - b. Presence of patient data confirming at least 1 PDD- DM TYPE 1 (PEDS) in the past

Pediatric Type 1 Diabetes Validation Exclusion

One of the following is correct:

1. Presence of at least 1 GESTATIONAL DM diagnosis in the past 12 months
2. Presence of at least 1 TRANSPLANT PANCREAS (CPT) procedure anytime in the past

Pediatric Type 2 Diabetes Validation

All of the following are correct:

1. Patient age is between 2 and 18 years

2. One of the following is correct:
  - a. All of the following are correct:
    - i. Presence of at least 2 DIABETES TYPE 2 diagnosis in the past 5 years
    - ii. One of the following is correct:
      1. Presence of at least 2 refills DM MEDS AND SUPPLIES in the past 12 months
      2. Presence of at least 2 DM MEDS AND SUPPLIES (HCPCS) procedure in the past 12 months
    - iii. Exclusion - Presence of at least 1 DIABETES TYPE 1 diagnosis in the past 5 years
  - b. All of the following are correct:
    - i. Presence of at least 1 DIABETES TYPE 1 diagnosis in the past 5 years
    - ii. Presence of at least 1 DIABETES TYPE 2 diagnosis in the past 5 years
    - iii. Presence of at least 1 refill DM MEDS/ORAL AGENTS exists in the past 6 months
    - iv. Exclusion – if one of the following is correct:
      1. Presence of at least 1 refill DM MEDS/INSULIN exists in the past 6 months
      2. Presence of at least 1 INSULIN THERAPY (HCPCS) procedure in the past 6 months
      3. Presence of at least 1 INSULIN THERAPY (ICD9) procedure in the past 6 months
  - c. Presence of patient data confirming at least 1 PDD- DM TYPE 2 (PEDS) in the past

Pediatric Type 2 Diabetes Validation Exclusion

One of the following is correct:

1. Presence of at least 1 GESTATIONAL DM diagnosis in the past 12 months
2. Presence of at least 1 TRANSPLANT PANCREAS (CPT) procedure anytime in the past

Dialysis Chronic Validation

One of the Following Expressions is correct:

1. Presence of at least 1 DIALYSIS (ICD9) diagnosis in the past 12 months from EHR data
2. Presence of at least 1 DIALYSIS (ICD9) diagnosis in the past 12 months from disability data
3. Presence of at least 2 DIALYSIS CHRONIC (CPT) procedure in the past 12 Months Timeframe Between Claims No Timeframe Begins on CE Run Date
4. Presence of patient data confirming at least 1 PDD- DIALYSIS Result Exists 0 In the past 12 Months Timeframe



Dialysis Chronic Validation Exclusion

The following is correct:

1. Presence of at least 1 TRANSPLANT RENAL (CPT) Procedure in the past 12 months

HIV Validation

One of the following is correct:

1. Presence of at least 1 HIV diagnosis anytime in the past from EHR data
2. Presence of at least 1 HIV diagnosis anytime in the past from disability data
3. Presence of At Least 4 HIV diagnosis in the past 24 months with at least one 3 month separation between claims
4. All of the following are correct:
  - a. Presence of at least 2 HIV diagnosis in the past 24 Months from claims data
  - b. One of the following is correct:
    - i. Presence of at least 2 refill ANTIRETROVIRAL AGENTS/ALL in the past 12 Months from EHR data
    - ii. Presence of at least 2 refills ANTIRETROVIRAL AGENTS/ALL in the past 12 Months
    - iii. Presence of at least 1 VIRAL LOAD procedure in the past 12 months
    - iv. Presence of at least 1 CD4 procedure in the past 12 months
    - v. Presence of at least 1 VIRAL LOAD MONITORING labs result in the past 12 months
    - vi. Presence of at least 1 CD4 COUNT MONITORING labs result in the past 12 months
5. Presence of patient data confirming at least 1 PDD- HIV result anytime in the past

Note: A 3-month time window has been added to certain timeframes to account for the inherent delay in the acquisition of administrative claims data.

Note: A current refill is defined as a refill in which the total day supply of a drug plus a grace period of an additional 30 days extends into the end of the measurement window.

See attached for code set

**2a1.8 Denominator Exclusions** *(Brief narrative description of exclusions from the target population):*

General exclusions:

- Evidence of metastatic disease or active treatment of malignancy (chemotherapy or radiation therapy) in the last 6 months;
- Patients who have been in a skilled nursing facility in the last 3 months

**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):

This measure is not stratified.

**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.):

This measure does not adjust for risk.

**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.):

PERFORMANCE MEASURE RULES:

High Risk for Pneumococcal Disease - Pneumococcal Vaccination

DENOMINATOR

One of the following is correct:

1. Patient age 65 and older
2. All of the following are correct:
  - a. Patient age between 5 and 64 years
    - i. One of following is correct:
      1. COPD validation is confirmed (see below)
      2. CKD Stage 5 validation is confirmed (see below)
      3. CHF Any Stage validation is confirmed (see below)
      4. Diabetes adult validation is confirmed (see below)
      5. Pediatric type 2 diabetes validation is confirmed (see below)
      6. Pediatric type 1 diabetes validation is confirmed (see below)

7. Dialysis Chronic Validation is confirmed (see below)
8. Human Immunodeficiency Virus (HIV) validation is confirmed (see below)
9. Presence of at least 2 NEPHROTIC SYNDROME diagnosis in the past 12 months
10. All of the following are correct:
  - a. Presence of at least 1 SPLENECTOMY INDICATIONS diagnosis anytime in the past
  - b. Presence of at least 1 SPLENECTOMY procedure anytime in the past

TWO SEPARATE NUMERATORS:

I. NUMERATOR for High Risk for Pneumococcal Disease - Pneumococcal Vaccination

The following is correct:

- A. If Shared Common Rule Pneumococcal 23 Valent Vaccine Surrogates is confirmed (see below)

Shared Common Rule Pneumococcal 23 Valent Vaccine Surrogates

One of the following is correct:

- a. Presence of at least 1 refill VACCINE-PNEUMOCOCCAL-23 VALENT anytime in the past
- b. Presence of at least 1 VACCINE (ICD-9)-PNEUMOCOCCAL diagnosis anytime in the past
- c. Presence of at least 1 VACCINE-PNEUMOCOCCAL 23 VALENT procedure anytime in the past
- d. Presence of patient data confirming at least 1 PDD- VACCINE PPV-23 anytime in the past
- e. Presence of provider or patient feedback indicating that vaccine has already been implemented

II. Numerator for High Risk for Pneumococcal Disease - Pneumococcal Vaccine Contraindications

The following is correct:

1. If Shared Common Rule Pneumococcal Vaccine Contraindications is confirmed (see below)

Shared Common Rule Pneumococcal Vaccine Contraindications

One of the following is correct:

1. Presence of patient data confirming at least 1 PDD- Vaccine Pneumo Allergic anytime in the past
2. Presence of provider feedback indicating that vaccine is contraindicated

VALIDATION RULES

COPD Validation

All of the following are correct:

1. Patient age  $\geq$  35 years
2. One of the following is correct:
  - a. Presence of at least 1 COPD diagnosis anytime in the past from EHR data
  - b. Presence of at least 1 COPD diagnosis anytime in the past from disability data
  - c. All of the following are correct:
    - i. Presence of at least 2 COPD diagnosis in the past 5 years from claims data

- ii. One of the following is correct:
  - 1. Presence of at least 2 refills INHALED ANTICHOLINERGIC AND BETA-AGONIST COMBO in the past 12 months from EHR data
  - 2. Presence of at least 2 refills INHALED ANTICHOLINERGIC AND BETA-AGONIST COMBO in the past 12 months from claims data
  - 3. Presence of at least 2 refills BRONCHODILATOR (LONG ACTING) exists in the past 12 months from EHR data
  - 4. Presence of at least 2 refills BRONCHODILATOR (LONG ACTING) exists in the past 12 months from claims data
  - 5. Presence of at least 1 COPD CPT procedure in the past 12 months
  - 6. Presence of at least 2 refills THEOPHYLLINE in the past 12 months from EHR data
  - 7. Presence of at least 2 refills THEOPHYLLINE in the past 12 months from claims data
  - 8. Presence of at least 2 HOME O2 THERAPY (HCPCS) procedure in the past 12 months
  - 9. All of the following are correct:
    - a. One of the following is correct:
      - i. Presence of at least 2 refills B-AGONIST (SHORT ACTING-INHALED) in the past 12 months from EHR data
      - ii. Presence of at least 2 refills B-AGONIST (SHORT ACTING-INHALED) in the past 12 months from claims data
    - b. One of the following is correct:
      - i. Presence of at least 2 refills INHALED ANTICHOLINERGIC DRUGS in the past 12 months from EHR data
      - ii. Presence of at least 2 refills INHALED ANTICHOLINERGIC DRUGS in the past 12 months from claims data
    - d. Presence of patient data confirming at least 1 PDD- COPD in the past

COPD Validation Exclusion

One of the following is correct:

- 1. Presence of at least 1 TRANSPLANT LUNG (CPT) procedure anytime in the past
  - 2. Presence of at least 2 TRANSPLANT LUNG (ICD-9) diagnosis anytime in the past
- CKD Stage 5 Validation

One of the following is correct:

- 1. Presence of at least 1 CKD STAGE 5 diagnosis in the past 12 months from EHR data
- 2. Presence of at least 1 ESRD/DIALYSIS (ICD-9) diagnosis in the past 12 months from EHR data
- 3. Presence of at least 1 CKD STAGE 5 diagnosis in the past 12 months from disability data

4. Presence of at least 1 ESRD/DIALYSIS (ICD-9) diagnosis in the past 12 months from disability data
5. Presence of at least 2 CKD STAGE 5 diagnosis in the past 12 months at least 3 months apart from claims data
6. Presence of at least 2 ESRD/DIALYSIS (ICD-9) diagnosis in the past 12 months at least 3 months apart from claims data
7. All of the following are correct:
  - a. Presence of at least 2 CKD - NOS diagnosis in the past 12 months at least 3 months apart from claims data
  - b. Presence of at least 1 result for creatinine clearance between 0.1 And 14 in the past
  - c. Patient age = 18 years
8. Presence of at least 2 DIALYSIS CHRONIC (CPT) procedure in the past 12 months
9. Presence of patient data confirming at least 1 PDD - DIALYSIS in the past 12 months

#### CKD Stage 5 Validation Exclusion

The following is correct:

1. Presence of at least 1 TRANSPLANT RENAL (CPT) procedure in the past 12 months
- 

#### CHF Any Stage Validation

All of the following are correct:

1. Patient age  $\geq$  18 years
2. One of the following is correct:
  - a. Presence of at least 1 CHF (CONGESTIVE HEART FAILURE) diagnosis anytime in the past from EHR data
  - b. Presence of at least 1 CHF (CONGESTIVE HEART FAILURE) diagnosis anytime in the past from disability data
  - c. Presence of at least 1 CHF - EF <40 procedure in the past 12 months
  - d. Presence of at least 4 CHF (CONGESTIVE HEART FAILURE) diagnosis in the past 24 months with at least a 6-month separation between claims.
- e. All of the following are correct:
  - i. Presence of at least 2 CHF (CONGESTIVE HEART FAILURE) diagnosis anytime in the past from claims data
1. One of following is correct:
  - a. Presence of at least 1 refill CARVEDILOL/LONG ACTING METOPROLOL 60 total days supply in the past 12 months

- b. Presence of at least 1 refill BIDIL 60 total days supply in the past 12 months
- c. Presence of at least 1 refill SPIRONOLACTONE/ EPLERENONE 60 total days supply in the past 12 months
- d. All of the following are correct:
  - i. Presence of at least 1 refill ANTIHYPE/ ARB-ACEI 60 total days supply in the past 12 months
  - ii. Presence of at least 1 refill DIURETICS/ LOOP DIURETICS 60 total days supply in the past 12 months
- e. All of the following are correct:
  - i. Presence of at least 1 refill HYDRALAZINE 60 total days supply in the past 12 months
  - ii. Presence of at least 1 refill NITRATES-LONG ACTING 60 total days supply in the past 12 months
- f. All of the following are correct:
  - i. Presence of at least 1 refill DIGOXIN 60 total days supply in the past 12 months
  - ii. Exclusion – Presence of at least 2 ATRIAL FIBRILLATION diagnosis in the past 12 months
- f. Presence of patient data confirming at least 1 PDD- EJECTION FRACTION VALUE result < 40 in the past
- g. Presence of patient data confirming at least 1 PDD- CHF in the past

CHF Any Stage Validation Exclusion

One of the following is correct:

- 1. Presence of at least 1 VALVE SURGERY procedure in the past 6 months
- 2. Presence of at least 1 VALVE REPLACEMENT diagnosis in the past 6 months
- 3. Presence of at least 1 TRANSPLANT HEART (ICD-9) diagnosis anytime in the past from EHR data
- 4. Presence of at least 1 TRANSPLANT HEART (ICD-9) diagnosis anytime in the past from disability data
- 5. Presence of at least 2 TRANSPLANT HEART (ICD-9) diagnosis anytime in the past from claims data
- 6. Presence of at least 1 TRANSPLANT HEART (CPT) procedure anytime in the past

Diabetes Adult Validation

All of the following are correct:

- 1. Patient age >= 18 years
- 2. One of the following is correct:

- a. Presence of at least DIABETES MELLITUS diagnosis anytime in the past from EHR data
- b. Presence of at least DIABETES MELLITUS diagnosis anytime in the past from disability data
- c. Presence of at least 4 DIABETES MELLITUS diagnosis in the past 12 months with at least a 3 month separation between claims
- d. All of the following are correct:
  - i. Presence of at least 1 DIABETES MELLITUS diagnosis in the past 5 years beginning at least 1 month in the past
  - ii. One of the following is correct:
    1. Presence of at least 2 refills DM MEDS AND SUPPLIES exists in the past 12 months from EHR data
    2. Presence of at least 2 refills DM MEDS AND SUPPLIES exists in the past 12 months from claims data
    3. Presence of at least 2 DM MEDS AND SUPPLIES (HCPCS) procedure in the past 12 months
    4. Presence of at least 1 INSULIN THERAPY (HCPCS) procedure in the past 12 months
    5. Presence of at least 1 HBA1C VALUE > 7.5 in the past 12 months
- e. Presence of patient data confirming at least 1 PDD- DIABETES in the past 24 months

#### Diabetes Validation Exclusion

One of the following is correct:

1. Presence of 2 DIABETES STEROID-INDUCED diagnosis in the past 12 months
  2. All of the following are correct:
    - Presence of at least 2 GESTATIONAL DM/POLYCYSTIC OVARIES diagnosis in the past 12 months
    - Female gender
- 

#### Pediatric Type 1 Diabetes Validation

All of the following are correct:

1. Patient age is between 2 and 18 years
2. One of the following is correct:
  - a. All of the following are correct:
    - i. Presence of at least 2 DIABETES TYPE 1 diagnosis in the past 5 years
    - ii. One of the following is correct:

1. Presence of at least 2 refills DM MEDS AND SUPPLIES exists in the past 12 months
2. Presence of at least 2 DM MEDS AND SUPPLIES (HCPCS) procedure in the past 12 months
3. Presence of at least 1 refill DM MEDS/INSULIN exists in the past 6 months
4. Presence of at least 1 refill of INSULIN (ICD9) diagnosis in the past 12 months
- b. Presence of patient data confirming at least 1 PDD- DM TYPE 1 (PEDS) in the past

#### Pediatric Type 1 Diabetes Validation Exclusion

One of the following is correct:

1. Presence of at least 1 GESTATIONAL DM diagnosis in the past 12 months
  2. Presence of at least 1 TRANSPLANT PANCREAS (CPT) procedure anytime in the past
- 

#### Pediatric Type 2 Diabetes Validation

All of the following are correct:

1. Patient age is between 2 and 18 years
2. One of the following is correct:
  - a. All of the following are correct:
    - i. Presence of at least 2 DIABETES TYPE 2 diagnosis in the past 5 years
    - ii. One of the following is correct:
      1. Presence of at least 2 refills DM MEDS AND SUPPLIES in the past 12 months
      2. Presence of at least 2 DM MEDS AND SUPPLIES (HCPCS) procedure in the past 12 months
    - iii. Exclusion - Presence of at least 1 DIABETES TYPE 1 diagnosis in the past 5 years
  - b. All of the following are correct:
    - i. Presence of at least 1 DIABETES TYPE 1 diagnosis in the past 5 years
    - ii. Presence of at least 1 DIABETES TYPE 2 diagnosis in the past 5 years
    - iii. Presence of at least 1 refill DM MEDS/ORAL AGENTS exists in the past 6 months
    - iv. Exclusion – if one of the following is correct:
      1. Presence of at least 1 refill DM MEDS/INSULIN exists in the past 6 months
      2. Presence of at least 1 INSULIN THERAPY (HCPCS) procedure in the past 6 months



3. Presence of at least 1 INSULIN THERAPY (ICD9) procedure in the past 6 months
- c. Presence of patient data confirming at least 1 PDD- DM TYPE 2 (PEDS) in the past

#### Pediatric Type 2 Diabetes Validation Exclusion

One of the following is correct:

1. Presence of at least 1 GESTATIONAL DM diagnosis in the past 12 months
  2. Presence of at least 1 TRANSPLANT PANCREAS (CPT) procedure anytime in the past
- 

#### Dialysis Chronic Validation

One of the Following Expressions is correct:

1. Presence of at least 1 DIALYSIS (ICD9) diagnosis in the past 12 months from EHR data
2. Presence of at least 1 DIALYSIS (ICD9) diagnosis in the past 12 months from disability data
3. Presence of at least 2 DIALYSIS CHRONIC (CPT) procedure in the past 12 Months Timeframe Between Claims No Timeframe Begins on CE Run Date
4. Presence of patient data confirming at least 1 PDD- DIALYSIS Result Exists 0 In the past 12 Months Timeframe

#### Dialysis Chronic Validation Exclusion

The following is correct:

1. Presence of at least 1 TRANSPLANT RENAL (CPT) Procedure in the past 12 months
- 

#### HIV Validation

One of the following is correct:

1. Presence of at least 1 HIV diagnosis anytime in the past from EHR data
2. Presence of at least 1 HIV diagnosis anytime in the past from disability data
3. Presence of At Least 4 HIV diagnosis in the past 24 months with at least one 3 month separation between claims
4. All of the following are correct:
  - a. Presence of at least 2 HIV diagnosis in the past 24 Months from claims data
  - b. One of the following is correct:

- i. Presence of at least 2 refill ANTIRETROVIRAL AGENTS/ALL in the past 12 Months from EHR data
- ii. Presence of at least 2 refills ANTIRETROVIRAL AGENTS/ALL in the past 12 Months
- iii. Presence of at least 1 VIRAL LOAD procedure in the past 12 months
- iv. Presence of at least 1 CD4 procedure in the past 12 months
- v. Presence of at least 1 VIRAL LOAD MONITORING labs result in the past 12 months
- vi. Presence of at least 1 CD4 COUNT MONITORING labs result in the past 12 months
5. Presence of patient data confirming at least 1 PDD- HIV result anytime in the past

Note: A 3-month time window has been added to certain timeframes to account for the inherent delay in the acquisition of administrative claims data.

Note: A current refill is defined as a refill in which the total day supply of a drug plus a grace period of an additional 30 days extends into the end of the measurement window.

**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):  
The measure is not based on a sample or 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 : Imaging/Diagnostic Study, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy, Electronic Clinical Data : Registry, Other

**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.): Data are collected from a number of electronic sources, e.g., health plans, pharmacy-based management systems, electronic health records, patient health records, etc.

**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  
High-Risk-for-Pneumococcal-Disease--Updated.xlsx

**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, Facility, Health Plan, Integrated Delivery System, Population : Community, Population : County or City, Population : National, Population : Regional, Population : State

**2a1.34-35 Care Setting** (Check all the settings for which the measure is specified and tested): Ambulatory Care : Ambulatory Surgery Center (ASC), Ambulatory Care : Clinic/Urgent Care, Ambulatory Care : Clinician Office, Dialysis Facility, Home Health, Hospital/Acute Care Facility, Laboratory, Post Acute/Long Term Care Facility : Nursing Home/Skilled Nursing Facility, Post Acute/Long Term Care Facility : Rehabilitation

**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):

All the data for the measures are obtained from electronic sources. Based on the client, we take in electronic data from health plans, pharmacy-based management systems, laboratory systems, personal health records, health risk assessments, and electronic health records. In addition, we can take in data from care management systems. All data feeds are electronic and do not require manual medical chart abstraction.

We have over 21 million patient records across our book of business. The average age of the population is 35 and 51.9% of the population is female. Currently we use a database of approximately over 2 million patient records pulled from multiple populations for testing purposes.

Our testing procedure includes testing the rules on the database of approximately 2 million patient records. We typically review the results for reliability, i.e., did we find the same people on multiple runs and validity, i.e., did we find the appropriate people in the denominator and numerator.

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

All of our quality measures are electronic and all the data used to support the measures are electronic. In addition, we receive the data by electronic feeds. We have internal processes to ensure that we receive valid codes and where appropriate the associated values. Our analytic process includes testing a new rule or algorithm on our test database of 2 million patient records, so that we can be sure of the reliability of the code. At the end of the test, we randomly select patients who are either in the numerator, or in the denominator but not the numerator, to ensure that they met the requirements of the rule. As a part of our reliability testing, we check to ensure we have found the correct people in the denominator or the numerator, across multiple rules with similar definitions. To ensure accuracy, we check a subset of the people who were not in the numerator to ensure that we were accurate in not counting them in the numerator. If we find errors at any stage of the reliability testing, e.g., similar denominators that had significant differences in counts, different compliance rates for similar populations; we update the rules and retest.

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

The measure algorithms and code sets are all electronic. Once we complete testing the rules and correcting any errors, the rules are deployed in a production environment for our clients. At that point, the rules are considered reliable, i.e., if the rules are run on the same data set we expect to find the same people on a consistent basis.

**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:**

**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):

The data for the measure are obtained from electronic sources. Based on the client, we take in electronic data from health plans, pharmacy-based management systems, laboratory systems, personal health records, health risk assessments, and electronic health records. In addition, we can take in data from care management systems. All data feeds are electronic and do not require manual medical chart abstraction.

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

All of our quality measures are electronic and all the data used to support the measures are electronic. In addition, we receive the data by electronic feeds. We have internal processes to ensure that we receive valid codes and where appropriate the associated values. Currently we use a database of approximately 2 million patient records for testing purposes. Our analytic process includes testing a new rule or algorithm on the standard data set so that we can be sure of the reliability of the code. At the end of the test, we randomly select patients who are either in the numerator, or in the denominator but not the numerator, to ensure that they met the requirements of the rule. As a part of our validity testing, we check to ensure we have found the correct people in the denominator or the numerator. To ensure accuracy, we check a subset of the people who were not in the numerator to ensure that we were accurate in not counting them in the numerator. If we find errors at any stage of the reliability testing, e.g., similar denominators that had differences in counts, compliance rates for similar populations that differ, then we update the rules and retest.

Further, to ensure that we obtain valid results once the measures are deployed, when we run the measure for a client we evaluate the results to ensure they are consistent with what we have found in the past for the client and across our book of business.

**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 algorithms and code sets used for the measures are all electronic. Once we test the rules, and correct any errors, the rules are deployed in a production environment for our clients. At that point, the rules are considered reliable, that is we are finding the appropriate people in the denominator and numerator.

In the prior iteration of this measure where the people who had a contraindication or allergy to the vaccine were excluded from the denominator, the measure was run against a population of 13,470,620 people. We found that 1,419,481 fell in the denominator, of these people 22% were compliant. We have revised our denominator and created a separate numerator to include those with a contraindication or allergy to the pneumococcal vaccine. We have tested the new specifications in sample of 2,459,160 people and found 500,903 people in the denominator of which those who received the vaccine (numerator 1) was 52,135 and those who had a contraindication or allergy to the vaccine (numerator 2) was 26 people.

**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):*

see above.

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

see above.

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

see above.

**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):*

We do not apply risk adjustment to our rules.

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

We do not apply risk adjustment to our rules.

**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):*

We do not apply risk adjustment to our rules.

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

**adjustment:** To satisfy the ability to apply evidence-based risk stratification protocols, we would have to collect electronic data to support the stratification, systematically; and often these data are not readily captured using standard electronic feeds. Other potential risk factors, e.g. race, gender, age, and socioeconomic status, relate to disparities in care, and except for age would be difficult to capture. In addition, risk stratification for a process measure might not be applicable.

We anticipate that once electronic health records and clinical data become more prevalent and robust, we will be able to capture these additional data for routine risk adjustment.

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

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

Our ability to analyze measures across different populations is limited by the characteristics of a specific client population. Since the rules are electronic, they are applied consistently, independent of the population characteristics. For example running this measure on a young population, may result in a lower denominator and compliance rate, compared to evaluating the measure across an older population.

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

See comments above.

**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):

See comments above.

**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):

We receive electronic data from multiple sources – health plan, electronic health record, personal health record, etc. Independent of the sources, all the available data about a patient are aggregated into a single patient record for use in performance measurement. Therefore, for an individual patient the record will include claims data, clinical data from an electronic health record, or a self-reported data from a patient health record. Based on this, we do not typically conduct analyses based on disparate sources of data. Instead, the rules contain redundancies to accommodate the different sources of data or the absence of specific data based on the source.

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

See comments above.

**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):

See comments above.

**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 do not stratify our measures for disparities.

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

To stratify based on disparities, would require that we receive electronic data in our standard feeds that we do not currently receive, e.g., race, ethnicity, socioeconomic status. We anticipate that once electronic health records and clinical data become more prevalent and robust, we will be able to capture these additional data for routine use including stratification disparities

**2.1-2.3 Supplemental Testing Methodology Information:**

**Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met? (Reliability and Validity must be rated moderate or high) Yes  No**

**Provide rationale based on specific subcriteria:**

**If the Committee votes No, STOP**

### 3. USABILITY

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

**C.1 Intended Actual/Planned Use** (Check all the planned uses for which the measure is intended): [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):

**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.]**

Traditionally, we have reported our measures to clients, who then publish the results publicly. We are in the process of working with clients who are part of a number of initiatives including patient-centered medical homes and accountable care organizations. We anticipate that with these new initiatives, that we will deploy our quality measures, the results of which should be part of the public reporting and quality initiative programs.

**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:

**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): [Traditionally, we have reported our measures to clients, who then publish the results publicly. We are in the process of working with clients who are a part of a number of initiative including patient-centered medical homes and accountable care organizations. We anticipate that with these new initiatives, that we will deploy our quality measures, the results of which should be part of the public reporting and quality initiative programs](#)

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

**3b.1. Use in QI.** If used in quality improvement program, provide name of program(s), locations, Web page URL(s):

**[For Maintenance – If not used for QI, indicate the reasons and describe progress toward using performance results for improvement].**

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

**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,  
Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)

**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): Yes

**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 use a combination of data sources to mitigate the risk of inaccuracies or errors. We recognize that generally, electronic data have inherent errors and inaccuracies related to incorrect coding, or missing data, which can result in less specificity in the definition of the denominator and /or the numerator. To minimize these errors and inaccuracies, we use clinically enriched data (laboratory results, medication lists) to augment the data. In addition, where possible, we corroborate the data, for example if we receive an ICD-9 code for diabetes from claims, we also build include in the rule the requirement for diabetic medications. We have a mechanism in place to solicit feedback from providers via a feedback form, if they detect errors with the measure.

We do not anticipate significant unintended consequences from the implementation of the measure. Our measures are all developed from evidence-based literature or from clinical practice guidelines and are designed to encourage appropriate care of the patient.

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

**A.2 Please check if either of the following apply** (regarding proprietary measures): Proprietary measure

**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):

Generally, we have learned that we have to be flexible to take in data from all possible sources. We have also heard from providers, that they prefer that the rules err on the side of specificity, e.g., lessen the risk of false positives, that is, identifying the wrong patient for the denominator and that they want a mechanism to provide feedback.

**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):**  
See above. See above.

### CONTACT INFORMATION

**Co.1 Measure Steward (Intellectual Property Owner):** [ActiveHealth Management, 1333 Broadway, New York, New York, 10018](#)

**Co.2 Point of Contact:** [Madhavi, Vemireddy, mvemireddy@activehealth.net, 212-651-8200-](#)

**Co.3 Measure Developer if different from Measure Steward:** [ActiveHealth Management, 1333 Broadway, New York, New York, 10018](#)

**Co.4 Point of Contact:** [Mureen, Allne, MD, MS, MA, FACP, mallen@activehealth.net, 212-651-8200-](#)

**Co.5 Submitter:** [Mureen, Allne, MD, MS, MA, FACP, mallen@activehealth.net, 212-651-8200-](#), [ActiveHealth Management](#)

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

**Co.7 Public Contact:** [Mureen, Allne, MD, MS, MA, FACP, mallen@activehealth.net, 212-651-8200-](#), [ActiveHealth Management](#)

### ADDITIONAL INFORMATION



|   |
|---|
| <b>Workgroup/Expert Panel involved in measure development</b><br>Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.<br>n/a  |
| 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: n/a  |
| <b>Measure Developer/Steward Updates and Ongoing Maintenance</b><br>Ad.3 Year the measure was first released: 2007<br>Ad.4 Month and Year of most recent revision: 12, 2010<br>Ad.5 What is your frequency for review/update of this measure? 2 years<br>Ad.6 When is the next scheduled review/update for this measure? 10, 2013   |
| Ad.7 <b>Copyright statement:</b> This information, including any attachments hereto, is the sole, exclusive, proprietary and confidential property of Active Health Management, Inc., and is for the exclusive use of The National Quality Forum. Any use, copying, disclosure, dissemination or distribution by anyone other than the National Quality Forum is strictly prohibited. |
| Ad.8 <b>Disclaimers:</b>  |
| Ad.9 <b>Additional Information/Comments:</b>  |
| <b>Date of Submission (MM/DD/YY):</b> 07/15/2011  |