

# NATIONAL QUALITY FORUM

## Measure Submission and Evaluation Worksheet 5.0

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

NQF #: 0036	NQF Project: <a href="#">Pulmonary Project</a>
(for Endorsement Maintenance Review)	
Original Endorsement Date: <a href="#">Aug 10, 2009</a> Most Recent Endorsement Date: <a href="#">Aug 10, 2009</a>	
BRIEF MEASURE INFORMATION	
De.1 Measure Title: <a href="#">Use of appropriate medications for people with asthma</a>	
Co.1.1 Measure Steward: <a href="#">National Committee for Quality Assurance</a>	
De.2 Brief Description of Measure: <a href="#">The measure assesses the percentage of members 5-64 years of age during the measurement year who were identified as having moderate to severe persistent asthma and who were appropriately prescribed medication during the measurement year.</a>	
2a1.1 Numerator Statement: <a href="#">The number of members who were dispensed at least one prescription for a preferred therapy during the measurement year</a>	
2a1.4 Denominator Statement: <a href="#">All health plan members 5-64 years of age during the measurement year who were identified as having moderate to severe persistent asthma</a>	
2a1.8 Denominator Exclusions: <a href="#">Exclude any members who had at least one encounter, in any setting, with any code to identify a diagnosis of emphysema, COPD, cystic fibrosis, or acute respiratory failure (Table ASM-E) any time on or prior to December 31 of the measurement year.</a>	
1.1 Measure Type: <a href="#">Process</a>	
2a1. 25-26 Data Source: <a href="#">Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy, Paper Records</a>	
2a1.33 Level of Analysis: <a href="#">Clinician : Group/Practice, Clinician : Individual, Clinician : Team, Health Plan, Integrated Delivery System, Population : National, Population : Regional, Population : State</a>	
1.2-1.4 Is this measure paired with another measure? <a href="#">No</a>	
De.3 If included in a composite, please identify the composite measure ( <i>title and NQF number if endorsed</i> ): <a href="#">N/A</a>	

STAFF NOTES ( <i>issues or questions regarding any criteria</i> )
Comments on Conditions for Consideration:
Is the measure untested? Yes <input type="checkbox"/> No <input type="checkbox"/> If untested, explain how it meets criteria for consideration for time-limited endorsement:
1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure ( <i>check De.5</i> ):
5. Similar/related <a href="#">endorsed</a> or submitted measures ( <i>check 5.1</i> ):
Other Criteria:
Staff Reviewer Name(s):

### 1. IMPACT, OPPORTUNITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT

Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See [guidance on evidence](#).  
***Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.***  
[\(evaluation criteria\)](#)

1a. High Impact: H  M  L  I

*(The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.)*

De.4 Subject/Topic Areas (Check all the areas that apply): Pulmonary/Critical Care, Pulmonary/Critical Care : Asthma

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

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

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

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

Clinical Importance

Asthma is one of the most prevalent chronic diseases; becoming increasingly more commonplace over the past twenty years. Approximately 23.3 million Americans have asthma and it is responsible for over 3,000 deaths in the U.S. annually (American Lung Association, 2010). In 2006, 13.3 million clinical visits (hospital, outpatient, emergency department, and physician offices) were attributed to asthma (CDC, 2008). The incidence rate, and subsequently the number of asthma-related health visits, is expected to increase by an additional 100 million globally by 2025 (World Health Organization, 2007).

Financial Importance

Asthma accounts for over \$20 billion spent on health care in the United States. Direct costs, including prescriptions, make up \$15.6 billion of that total, and indirect costs, such as lost productivity, add an additional \$5.1 billion (CDC, 2008). Inpatient hospitalization accounts for over 50 percent of overall asthma-related costs (Bahadori, 2009). In addition to the direct financial burden, asthma is also a leading cause of absenteeism and productivity, accounting for an estimated 14.2 million missed workdays for adults and over 14 million missed school days for children (Akinbami, 2009). Studies have shown that the indirect costs of asthma are becoming a growing financial burden on patients, and resulting in significant additional costs (Bahadori, 2009). Appropriate medication management could potentially prevent a significant proportion of asthma-related costs (hospitalizations, emergency room visits and missed work and school days) (Akinbami, 2009). The Asthma Regional Council supported this inference, stating that proper management could potentially save at least 25 percent of total asthma costs, or \$5 billion, nationally by reducing health care costs (American Lung Association, 2009). Another initiative, the Children's Health Fund's Childhood Asthma Initiative, examined patients enrolled in an asthma intervention program. Results illustrated that treatment that aligned with clinical guidelines reduced the severity of experienced symptoms experienced, as well as asthma-related events (e.g., hospitalizations, emergency room visits, etc.) (Columbia University, 2010). Additionally, subsequent savings attributed to improved clinical outcomes totaled to nearly \$4.2 million or \$4,525 per patient. This translated to a significant reduction in federally subsidized and private insurance-based costs for this population.

1a.4 Citations for Evidence of High Impact cited in 1a.3: Akinbami, LJ. The State of Childhood Asthma, United States, 1980–2007. Advance Data from Vital and Health Statistics. Revised February 16, 2009. Pediatrics 123 (Supplement); S131-45.

Hyattsville, MD: National Center for Health Statistics. Available from:

[http://pediatrics.aappublications.org/cgi/content/full/123/Supplement\\_3/S131](http://pediatrics.aappublications.org/cgi/content/full/123/Supplement_3/S131) . (March 2010)

American Lung Association. Trends in Asthma Morbidity and Mortality. 2009.

Bahadori et al. Economic burden of asthma: a systematic review. BMJ 9(24): 1-16, 2009.

British Thoracic Society. British Guideline on the management of asthma. A national clinical guideline. Scotland: British Thoracic Society (BTS); 2009 June.

Centers for Disease Control and Prevention. Asthma: A Presentation of Asthma Management and Prevention. 2009. Available from: <http://www.cdc.gov/asthma/speakit/default.htm> . (September 2010)

Columbia University. Best Practice Asthma Program Saves the US Healthcare System More than \$4500 a Year per Child. 2010. Available from: <http://www.mailman.columbia.edu/news/best-practice-asthma-program-saves-us-healthcare-system-more-4500-year-child> . (December 2010)

NHLBI/NAEPP (National Heart Lung and Blood Institute/National Asthma Education and Prevention Program). Measures of

asthma assessment and monitoring: Expert panel report 3: guidelines for the diagnosis and management of asthma. Washington (DC): National Heart Lung and Blood Institute (NHLBI); 2007 Aug.  
 World Health Organization. Global surveillance, prevention and control of chronic respiratory diseases: a comprehensive approach. 2007.

**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:**

As stated within the financial and clinical importance regarding asthma control, outstanding gaps and disparities in asthma care lie in the following areas:

- Continued elevation of morbidity and mortality rates
- Lack of control over asthma symptoms
- Implications of financial and disease burden (e.g., direct and indirect costs, absenteeism, number of episode-free days, rate of exacerbations, number of emergency department visits and inpatient stays with a diagnosis of asthma)
- Adherence to medication regimens

**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.]

Several studies have been undertaken to define measures of asthma quality of care based upon the continuing gaps in care and the guideline recommendations and supporting evidence cited above. A number of recent studies have been undertaken to define measures more directly related with outcomes such as risk of subsequent ED visits, and increasing use of reliever medications, which serves as a surrogate outcome for severe and acute symptoms and exacerbations (Schatz 2010, Broder 2010, Fuhlbrigge 2004). The intent of this research is based, in part, on verifying some of the findings from previous research on the positive associations between the outcomes of interest and appropriate asthma-specific medication management in people with persistent asthma.

**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]

Asthma Regional Council. Living with Asthma in New England: Results from the 2006 BRFSS and Call-back Survey. 2010.

Available from: <http://www.asthmaregionalcouncil.org/uploads/Surveillance/BRFSS%20-%20Living%20with%20Asthma%20in%20New%20England%20February%202010.pdf> . (December 2010)

Broder MS, Guterrez B, Chang E, et al. Ratio of controller to total asthma medications: determinants of the measure. Am J Managed Care. 2010;16(3):170-178.

Fuhlbrigge A, Carey VJ, Adams RJ. Evaluation of asthma prescription measures and health system performance based on emergency department utilization. Med Care. 2004;42(5):1-7.

Schatz M, Zeiger RS, Yang ST, et al. Relationship of asthma control to asthma exacerbations using surrogate markers within a managed care database. Am J Managed Care. 2010;16(5):327-333.

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

The measure is not stratified to detect disparities. NCOA has participated with IOM and others in attempting to include information on disparities in measure data collection. However, at the present time, this data, at all levels (claims data, paper chart review, and electronic records), is not coded in a standard manner, and is incompletely captured. There are no consistent standards for what entity (physician, group, plan, employer) should capture and report this data. While “requiring” reporting of the data could push the field forward, it has been our position that doing so would create substantial burden with inability to use the data because of its inconsistency. At the present time, we agree with the IOM report that disparities are best considered by the use of zip code analysis which has limited applicability in most reporting situations. At the health plan level, for HEDIS health plan data collection, NCOA does have extensive data related to our use of stratification by insurance status (Medicare, Medicaid and private-commercial) and would strongly recommend this process where the data base supporting the measurement includes this information. However, we believe that the measure specifications should NOT require this since the measure is still useful where the data needed to determine disparities cannot be ascertained from the data available.

**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]  
 N/A

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

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

Quantity	Quality	Consistency	Does the measure pass subcriterion1c?
M-H	M-H	M-H	Yes <input type="checkbox"/>
L	M-H	M	Yes <input type="checkbox"/> IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No <input type="checkbox"/>
M-H	L	M-H	Yes <input type="checkbox"/> IF potential benefits to patients clearly outweigh potential harms: otherwise No <input type="checkbox"/>
L-M-H	L-M-H	L	No <input type="checkbox"/>

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	Does the measure pass subcriterion1c? Yes <input type="checkbox"/> IF rationale supports relationship
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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):

Clinical practice guidelines and research both stipulate that appropriate distribution of medication and patient adherence to medication regimens are associated with improved health outcomes for individuals.

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

Clinical Practice Guideline

1c.4 Directness of Evidence to the Specified Measure (State the central topic, population, and outcomes addressed in the body of evidence and identify any differences from the measure focus and measure target population):

Per the British Thoracic Society (BTS), inhaled steroids are the preferred therapy for adults and children in terms of achieving treatment goals. For cases of acute or symptomatic asthma, inhaled short-acting beta2 agonists (SABAs) are recommended as a primary treatment. For cases of persistent asthma, combination therapy (inhaled corticosteroids (ICSs) and an additional preferred medication) is best in terms of disease management and symptom alleviation.

Per the National Heart Lung and Blood Institute/National Asthma and Education Prevention Program (NHLBI/NAEPP), the most effective types of long-term controller medications are those that mediate the inflammation characteristic of asthma (e.g., inhaled corticosteroids, leukotriene modifiers, etc.). ICSs are the preferred option among adults and children, with long-acting beta2 agonists (LABAs) recommended only if combined with ICSs.

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): The studies included evidence-based guidelines with and without systematic reviews/ evaluations, economic evaluations of asthma medications, survey based research and retrospective studies. Research and studies consistently show that appropriate medication management could potentially prevent a significant proportion of asthma-related costs.

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

Benefits: Good control of asthma symptoms

- Improved quality of life
- Reduction in the frequency and severity of asthma exacerbations
- Fewer ED visits

Harms: Potential adverse effects of long-term medication use

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

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

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

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

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

1c.14 Summary of Controversy/Contradictory Evidence: N/A

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

N/A

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

British Thoracic Society (BTS)

- Inhaled steroids are the recommended preventer drug for adults and children for achieving overall treatment goals.
- Inhaled (short-acting) beta2 agonists are the first line treatment for acute asthma.
- Prescribe an inhaled short-acting beta2 agonist as short term reliever therapy for all patients with symptomatic asthma.
- If control remains inadequate on 800 mcg BDP (beclomethasone dipropionate) daily (adults) and 400 mcg daily (children) of an inhaled steroid plus a long-acting beta2 agonist, consider the following interventions:
  - Increasing inhaled steroids to 2000 mcg BDP/day (adults) or 800 mcg BDP/day (children 5-12 years)
  - Leukotriene receptor antagonists
  - Theophyllines
  - Slow release beta2 agonist tablets, though caution needs to be used in patients already on long-acting B2 agonists

National Heart Lung and Blood Institute/National Asthma and Education Prevention Program (NHLBI/NAEPP)

- Long-term control medications (include ICSs, inhaled long-acting bronchodilators, leukotriene modifiers, cromolyn, theophylline, and immunomodulators) are used daily to achieve and maintain control of persistent asthma. The most effective are those that attenuate the underlying inflammation characteristic of asthma. The Expert Panel defines anti-inflammatory medications as those that cause a reduction in the markers of airway inflammation in airway tissue or airway secretions (e.g., eosinophils, mast cells, activated lymphocytes, macrophages, and cytokines; or ECP and tryptase; or extravascular leakage of albumin, fibrinogen, or other vascular protein).
- Inhaled corticosteroids are the preferred treatment option for mild persistent asthma in adults and children. LTRAs are an alternative, although not preferred, treatment.
- Long-acting beta2 agonists should only be used in combination with ICSs for long-term control and prevention of symptoms in moderate or severe persistent asthma (step 3 care or higher in children =5 years of age and adults). There is a strong recommendation against the use of LABAs as monotherapy. Of the adjunctive therapies available, long-acting beta2 agonists is the preferred therapy to combine with ICS in youths =12 years of age and adults.
- The beneficial effects of long-acting beta2 agonists in combination therapy for the great majority of patients who require more therapy than low-dose ICS alone to control asthma (i.e., require step 3 care or higher) should be weighed against the increased risk of severe exacerbations, although uncommon, associated with the daily use of long-acting beta2 agonists (see discussion in text).
- The NHLBI/NAEPP guideline strongly recommends against the use of long-acting beta2 agonists for the treatment of acute symptoms or exacerbations.

American College of Chest Physicians/American College of Allergy, Asthma and Immunology (ACCP/ACAAI)

• Patients with cough due to asthma should initially be treated with a standard anti-asthmatic regimen of inhaled bronchodilators and inhaled corticosteroids.

British Thoracic Society (BTS)

- Inhaled steroids are the recommended preventer drug for adults and children for achieving overall treatment goals.
- Inhaled (short-acting) beta2 agonists are the first line treatment for acute asthma.
- Prescribe an inhaled short-acting beta2 agonist as short term reliever therapy for all patients with symptomatic asthma.
- If control remains inadequate on 800 mcg BDP (beclomethasone dipropionate) daily (adults) and 400 mcg daily (children) of an inhaled steroid plus a long-acting beta2 agonist, consider the following interventions:
  - Increasing inhaled steroids to 2000 mcg BDP/day (adults) or 800 mcg BDP/day (children 5-12 years)
  - Leukotriene receptor antagonists
  - Theophyllines
  - Slow release beta2 agonist tablets, though caution needs to be used in patients already on long-acting beta2 agonists

Joint Task Force on Practice Parameters (comprised of American Academy of Allergy, Asthma & Immunology [AAAAI], American College of Allergy, Asthma & Immunology [ACAAI], and the Joint Council of Allergy, Asthma & Immunology [JCAAI])

Steps for pharmacotherapy of asthma:

- Step 1 – Prescribe an inhaled short-acting beta2 agonist as short-term reliever therapy for all patients with symptomatic asthma.
- Step 2 – Low-dose inhaled corticosteroids (ICSs), leukotriene modifiers, theophylline, cromolyn, or nedocromil
- Step 3 – Low-dose/medium dose ICSs plus inhaled long-acting beta-agonist (long-acting  $\beta_2$  agonists) or medium-dose ICSs; low-dose/medium-dose ICSs plus either leukotriene modifier or theophylline
- Step 4 – High-dose ICSs and long-acting beta2 agonists

Institute for Clinical Systems Improvement (ICSI)

- Treatment is begun with inhaled short-acting beta2-agonists administered by meter dose inhaler (MDI)/spacer or nebulizer.

Singapore Ministry of Health (SMOH)

- Leukotriene modifiers can either be used as an alternative to low dose inhaled glucocorticosteroids in patients with mild persistent asthma, or as an add-on drug when low dose inhaled glucocorticosteroids or when the combination of inhaled corticosteroids with long acting beta2-agonist have not given the desired effect.

**1c.17 Clinical Practice Guideline Citation:** British Thoracic Society. British Guideline on the management of asthma. A national clinical guideline. Scotland: British Thoracic Society (BTS); 2009 June.

Dolovich MB et al. Device selection and outcomes of aerosol therapy: evidence-based guidelines: American College of Chest Physicians/American College of Asthma, Allergy, and Immunology. Chest 2005 Jan; 127(1): 335-71.

Institute for Clinical Systems Improvement. Diagnosis and management of asthma. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2008 Jan.

Joint Task Force on Practice Parameters. Attaining optimal asthma control: a practice parameter. J Allergy Clin Immunol 2005 Nov; 116(5): S3-11.

National Heart Lung and Blood Institute/National Asthma Education and Prevention Program. Measures of asthma assessment and monitoring: Expert panel report 3: guidelines for the diagnosis and management of asthma. Washington (DC): National Heart Lung and Blood Institute (NHLBI); 2007 Aug.

National Medical Research Council (Singapore Ministry of Health). Management of asthma. Singapore: Singapore Ministry of Health (SMOH); 2008 Jan.

**1c.18 National Guideline Clearinghouse or other URL:** <http://qualitymeasures.ahrq.gov/content.aspx?id=27721>

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

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

1c.21 System Used for Grading the Strength of Guideline Recommendation: [Other](#)

1c.22 If other, identify and describe the grading scale with definitions: [n/a](#)

1c.23 Grade Assigned to the Recommendation:

1c.24 Rationale for Using this Guideline Over Others: [It is NCOA policy to use guidelines which are evidence-based, applicable to physicians and other healthcare providers, and developed by a national specialty organization or government agency.](#)

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: [High](#) 1c.26 Quality: [High](#) 1c.27 Consistency: [High](#)

Was the threshold criterion, *Importance to Measure and Report*, met?  
 (1a & 1b must be rated moderate or high and 1c yes) Yes  No

Provide rationale based on specific subcriteria:

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

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

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)  
 Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See [guidance on measure testing](#).

S.1 Measure Web Page (*In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained*). Do you have a web page where current detailed specifications for this measure can be obtained? [No](#)

S.2 If yes, provide web page URL:

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*):  
[The number of members who were dispensed at least one prescription for a preferred therapy during the measurement year](#)

2a1.2 Numerator Time Window (*The time period in which the target process, condition, event, or outcome is eligible for inclusion*):  
[The measurement year \(one calendar year\)](#)

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*):  
[The number of members who were dispensed at least one prescription for a preferred therapy \(Table ASM-D\) during the measurement year](#)

- Table ASM-D: Preferred Asthma Therapy Medications  
 Antiasthmatic combinations: [dyphylline-guaifenesin, guaifenesin-theophylline, potassium iodide-theophylline](#)  
 Antibody inhibitor: [omalizumab](#)  
 Inhaled steroid combinations: [budesonide-formoterol, fluticasone-salmeterol, mometasone-formoterol](#)  
 Inhaled corticosteroids: [beclomethasone, budesonide, ciclesonide, flunisolide, fluticasone CFC free, mometasone, triamcinolone](#)  
 Leukotriene modifiers: [montelukast, zafirlukast, zileuton](#)

Mast cell stabilizers: cromolyn, nedocromil  
 Methylxanthines: aminophylline, dyphylline, oxtriphylline, theophylline

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

All health plan members 5–64 years of age during the measurement year who were identified as having moderate to severe persistent asthma

**2a1.5 Target Population Category** *(Check all the populations for which the measure is specified and tested if any):* Adult/Elderly Care, Children's Health, Populations at Risk

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

The measurement year and the calendar year prior to 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):*

The steps below are used to identify eligible members with persistent asthma for inclusion in the denominator:

Step 1. Identify members as having persistent asthma who met at least one of the following criteria during both the measurement year and the year prior to the measurement year. Criteria need not be the same across both years.

- At least one ED visit (Table ASM-B) with asthma as the principal diagnosis (Table ASM-A)
- At least one acute inpatient discharge (Table ASM-B) with asthma as the principal diagnosis (Table ASM-A)
- At least four outpatient asthma visits (Table ASM-B) with asthma as one of the listed diagnoses (Table ASM-A) and at least two asthma medication dispensing events (Table ASM-C)
- At least four asthma medication dispensing events (Table ASM-C)

Step 2. A member identified as having persistent asthma because of at least four asthma medication dispensing events, where leukotriene modifiers were the sole asthma medication dispensed in that year, must also meet the following criterion.

- Have at least one diagnosis of asthma, in any setting, in the same year as the leukotriene modifier (i.e., measurement year or year prior to the measurement year).

Table ASM-A: Codes to Identify Asthma

Description: ICD-9-CM Diagnosis

Asthma: 493.0, 493.1, 493.8, 493.9

Table ASM-B: Codes to Identify Visit Type

Outpatient: CPT 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99382-99386, 99392-99396, 99401-99404, 99411, 99412, 99420, 99429; UB Revenue 051x, 0520-0523, 0526-0529, 057x- 059x, 0982, 0983

Acute inpatient: CPT 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99291; UB Revenue 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x, 021x, 072x, 0987

ED: CPT 99281-99285; UB Revenue 045x, 0981

Table ASM-C: Asthma Medications

Antiasthmatic combinations: dyphylline-guaifenesin, guaifenesin-theophylline, potassium iodide-theophylline

Antibody inhibitor: omalizumab

Inhaled steroid combinations: budesonide-formoterol, fluticasone-salmeterol, mometasone-formoterol

Inhaled corticosteroids: beclomethasone, budesonide, ciclesonide, flunisolide, fluticasone CFC free, mometasone, triamcinolone

Leukotriene modifiers: montelukast, zafirlukast, zileuton

Long-acting, inhaled beta-2 agonists: aformoterol, formoterol, salmeterol

Mast cell stabilizers: cromolyn, nedocromil

Methylxanthines: aminophylline, dyphylline, oxtriphylline, theophylline

Short-acting, inhaled beta-2 agonists: albuterol, levalbuterol, metaproterenol, pirbuterol

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

Exclude any members who had at least one encounter, in any setting, with any code to identify a diagnosis of emphysema, COPD, cystic fibrosis, or acute respiratory failure (Table ASM-E) any time on or prior to December 31 of the measurement year.



**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):

Table ASM-E: Codes to Identify Exclusions

Emphysema: 492, 506.4, 518.1, 518.2

COPD: 491.2, 493.2, 496

Cystic fibrosis: 277.0

Acute respiratory failure: 518.81

**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):

The NQQA age strata for asthma measures are designed to align with both clinical practice guidelines and reporting requirements for child health quality improvement programs. Clinical guidelines specify appropriate age cohorts for measuring use of asthma medications as 5–11 years of age and 12–50 years of age, to account for the differences in medication regimens for children vs. for adolescents and adults. Implementation requires further stratification of the age ranges, to enable creation of comparable cohorts that align with child health populations. Four age stratifications and a total rate are reported for this measure. Age for each stratum is based on the member's age as of December 31st of the Measurement Year.

1) 5–11 years

2) 12–18 years

3) 19-50 years

4) 51-64 years

5) Total

**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.):

N/A

**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.):

The measure determines how well a health plan member with moderate to severe persistent asthma is taking their prescribed medications. The measure calculation is detailed in the steps listed below:

Step 1: Determine eligible population: Identify members as having persistent asthma who met at least one of the following criteria during both the measurement year and the year prior to the measurement year. Criteria need not be the same across both years.

- At least one ED visit (Table ASM-B) with asthma as the principal diagnosis (Table ASM-A)
- At least one acute inpatient claim/encounter (Table ASM-B) with asthma as the principal diagnosis (Table ASM-A)
- At least four outpatient asthma visits (Table ASM-B) with asthma as one of the listed diagnoses (Table ASM-A) and at least two asthma medication dispensing events (Table ASM-C)

At least four asthma medication dispensing events (Table ASM-C)

Step 2: A member identified as having persistent asthma because of at least four asthma medication dispensing events where leukotriene modifiers were the sole asthma medication dispensed in that year, must also have at least one diagnosis of asthma (Table ASM-A), in any setting, in the same year as the leukotriene modifier (i.e., the measurement year or the year prior to the measurement year).

Step 3: Required Exclusions.

- Exclude any members who had at least one encounter, in any setting, with any code to identify a diagnosis of emphysema, COPD, cystic fibrosis or acute respiratory failure (Table ASM-E). Look as far back as possible in the member's history through December 31 of the measurement year. Exclude any members who have no medication events present in their record during the measurement year.

Step 4: Calculate the number of members who were dispensed at least one prescription for a preferred therapy (Table ASM-D) during the measurement year

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):

N/A

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 Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy, Paper Records

2a1.26 **Data Source/Data Collection Instrument** (Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.): NCQA collects HEDIS data directly from Health Management Organizations and Preferred Provider Organizations via a data submission portal - the Interactive Data Submission System (IDSS).

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

<http://www.ncqa.org/tabid/370/default.aspx>

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

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

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

2a2.1 **Data/Sample** (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

The measure seeks to evaluate cross-plan performance comparisons of asthma medication regimens among health plan members. A recent field test of asthma concepts included nine health plans that provided member-level administrative data to NCQA for analysis. Plans' enrollment included both commercial and Medicaid product lines, with representative membership ranging in size

from 2,000 to 700,288. The service areas of the participating plans were also fairly extensive, providing comprehensive coverage to select states or regions from a variety of geographic areas within the United States. Participating plans were asked to submit enrollment, encounter and medication data to NCOA, who then performed the actual calculations of the measure rates. These calculations were designed to address a large number of research questions about the specific population identified as having persistent asthma.

This measure has been collected in HEDIS since 2005 and an annual analysis is conducted on the distribution of plan performance across the nation. The HEDIS data collection includes results submitted to NCOA from over 1100 different health plans.

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

The field test retested a number of previously validated criteria for identifying an eligible population with persistent asthma using administrative claims data. Using the dataset provided, NCOA examined several different scenarios to determine the effects of different specification criteria on this particular population. This information was combined with multiple years of HEDIS data collection of this measure to examine the reliability of collecting this measure through administrative claims.

Reliability was estimated on the HEDIS 2011 submissions (2010 data) using the beta-binomial model. Beta-binomial is a better fit when estimating the reliability of simple pass/fail rate measures as is the case with most HEDIS® health plan measures. The beta-binomial model assumes the plan score is a binomial random variable conditional on the plan's true value that comes from the beta distribution. The beta distribution is usually defined by two parameters, alpha and beta. Alpha and beta can be thought of as intermediate calculations to get to the needed variance estimates. The beta distribution can be symmetric, skewed or even U-shaped.

Reliability used here is the ratio of signal to noise. The signal in this case is the proportion of the variability in measured performance that can be explained by real differences in performance. A reliability of zero implies that all the variability in a measure is attributable to measurement error. A reliability of one implies that all the variability is attributable to real differences in performance. The higher the reliability score, the greater is the confidence with which one can distinguish the performance of one plan from another. A reliability score greater than or equal to 0.7 is considered very good.

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

Reliability statistic for this measure from the HEDIS 2010 data set was calculated as 0.87141 for commercial and 0.93853 for Medicaid

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

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

The evidence is consistent with the focus and scope of this measure.

**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 HEDIS asthma concepts were developed and testing prior to implementation in 2005. Recently these concepts were retested in a large administrative field test. Nine health plans covering a variety of geographic areas within the United States were asked to provide complete administrative data file consisting of any member in their commercial and Medicaid product lines for anyone that had a diagnosis code for asthma during the calendar years of 2009-2010. The complete member-level administrative file used for analysis included a total of more than 82,000 health plan members with asthma.

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

NCOA tested the measure for face validity using a panel of stakeholders with specific expertise in measurement. This panel included representatives from key stakeholder groups geriatricians, health plans, Medicare officials and researchers. Experts reviewed the results of the field test and assessed whether the results were consistent with expectations, whether the measure represented.

**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*):

This measure was deemed valid by the expert panel and approved by NCOA's Committee on Performance Measurement (CPM) for continued inclusion in HEDIS

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

**2b3. Measure Exclusions.** (*Exclusions were supported by the clinical evidence in 1c or appropriately tested with results demonstrating the need to specify them.*)

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

The presence of diagnostic exclusions was extensively tested on the entire field test population (>82,000 members) to determine the effect on eligible population and the measure results experienced as a result of the application of clinical exclusions.

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

Members identified as having persistent asthma were excluded from the measure calculation based on the following ICD-9 codes and corresponding diagnoses: COPD (493.2, 496), chronic bronchitis (491.2), emphysema (492, 506.4, 518.1, 518.2), cystic fibrosis (277.0), and acute respiratory failure (518.81). This information was particularly important in examining the 51-64 age cohort, as this group is most likely to experience concomitant diagnoses of asthma and COPD or chronic bronchitis.

In addition, entry into the eligible population for persistent asthma requires a combination of multiple outpatient encounters and diagnoses. One of the shortcomings of this approach is that these encounters could be linked to the same event and therefore do not accurately capture a population with persistent asthma. Using the field test dataset, NCOA examined the different scenarios where encounters were less than 14 days apart (a standard HEDIS time frame for linked encounters) to determine the effect on the measure's eligible population. Section 2b3.3 details the results of this additional analysis revealing the proportion of the population that would potentially be excluded from the EP as a result of the additional criterion of <14 days between encounters.

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

Field test results indicated that clinical exclusions do, in fact, affect a significant proportion of the eligible population with persistent asthma—particularly in the older age cohort (~24.6%), however the stability of the coding in the administrative claims was found to be adequately reliable to continue to utilize the exclusions listed in section 2b3.2.

Impact of Co-morbidity Exclusions on the Eligible Populations

Table 1: Eligible Population Excluded for a comorbidity (Commercial)

Age Group	Any	COPD	Chronic Bronchitis	Emphysema	CF	ARS
5 - 11	5.7%	3.7%	1.3%	0.3%	0.8%	1.0%
12 - 50	16.2%	14.2%	4.1%	0.9%	0.6%	1.3%
51 - 64	41.5%	39.6%	15.6%	6.4%	0.1%	3.5%
T1 (5-50)	14.1%	12.0%	3.5%	0.8%	0.6%	1.3%
T2(5-64)	24.6%	22.6%	8.2%	3.0%	0.4%	2.1%

Table 2: Eligible Population Excluded for a comorbidity (Medicaid)

Age Group	Any	COPD	Chronic Bronchitis	Emphysema	CF	ARS
5 - 11	3.8%	2.7%	0.4%	0.1%	0.4%	0.6%
12 - 50	18.3%	16.6%	3.4%	1.3%	0.4%	2.6%
51 - 64	45.2%	43.7%	13.8%	6.7%	0.2%	7.4%
T1 (5-50)	12.8%	11.4%	2.3%	0.8%	0.4%	1.8%
T2(5-64)	18.1%	16.6%	4.2%	1.8%	0.3%	2.7%

Finally, the analyses included an assessment of the completeness of plan's data to determine the ability to further identify and classify specific subgroups. Out of all the variables included in the administrative data file layout, race/ethnicity was the only variable across all nine plans that experienced any "missing" or "incomplete" elements that would hamper further efforts to target specific opportunities for improvement in asthma management. Missing race/ethnicity data in the commercial plans ranged from 0% to 89.4% and from 0% to 91.7% in Medicaid plans. The proportion of "Unknown" race/ethnicity data was relatively low across all plans (0-4.8% commercial, 0-4% Medicaid).

**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):

N/A

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

N/A

**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):

N/A

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

**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):

This measure has been reported in HEDIS since 2005 and is a required measure for health plan accreditation. 1100 plans reported HEDIS in 2011.

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

Comparison of means and percentiles; analysis of variance against established benchmarks.

**2b5.3 Results** (Provide measure performance results/scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningful differences in performance):

Tables 3-14 below outline the distribution of plan performance for ASM by each product line (commercial and Medicaid) and age cohort.

Table 3: ASM Commercial Total

	2010	2009	2008	
N	225	236	247	
MEAN	92.9	92.7	92.4	
STDEV	2.58	2.71	2.68	
STDERR		0.17	0.18	0.17
MIN	81	77.5	80	
MAX	100	99.4	100	
P10	89.9	89.4	89.3	
P25	91.5	91.6	91	
P50	93.2	92.9	92.6	
P75	94.5	94.3	93.8	
P90	95.7	95.5	95.1	

Table 4: ASM: Commercial Rate: 5-9 Years 2008

N	183
MEAN	96.9
STDEV 2	.05
STDERR	0.15

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MIN	88.4
MAX	100
P10	94.2
P25	96
P50	97.1
P75	98.1
P90	100

Table 5: ASM Commercial Rate 10-17 Years 2008

N	197
MEAN	93.6
STDEV	2.99
STDERR	0.21
MIN	82.2
MAX	100
P10	89.4
P25	92.1
P50	93.9
P75	95.5
P90	96.9

Table 6: ASM Commercial Rate - 18-56 Years 2008

N	243
MEAN	91.1
STDEV	3.15
STDERR	0.2
MIN	77.9
MAX	98.8
P10	86.9
P25	89.8
P50	91.6
P75	93
P90	94.5

Table 7: ASM Commercial Rate Ages 5-11

	2010	2009
N	179	191
MEAN	96.7	96.6
STDEV	2.1	2.47
STDERR	0.16	0.18
MIN	88.5	83.3
MAX	100	100
P10	94.1	94
P25	95.5	95.8
P50	96.9	96.9
P75	98	97.9
P90	99.4	99.1

Table 8: ASM - Rate - 12-50

	2010	2009
N	222	231
MEAN	91.8	91.4
STDEV	2.94	3.1
STDERR	0.2	0.2

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MIN	83.2	73.3 .
MAX	100	99.4 .
P10	88.1	87.8 .
P25	90.3	90.1 .
P50	92	91.6 .
P75	93.7	93.1 .
P90	95	94.8 .

Medicaid

Table 9: ASM - Rate - Total

2010	2009	2008		
N	152	127	134	
MEAN	88.4	88.6	88.7	
STDEV	4	3.27	3.83	
STDERR		0.32	0.29	0.33
MIN	68.9	79.8	64.4	
MAX	97.8	96.5	96.7	
P10	83.6	84.6	84.1	
P25	86.6	86.7	86.8	
P50	88.9	88.6	89.2	
P75	90.5	90.8	91.2	
P90	93.2	92.8	92.1	

Table 10: ASM - Rate - 5-9 Years . . 2008

N .	123
MEAN	92
STDEV	3.87
STDERR	0.35
MIN	75.7
MAX .	100
P10 .	86.7
P25	89.5
P50	92.6
P75	94.6
P90	96.4

Table 11: ASM - Rate - 10-17 Years . . 2008

N .	127
MEAN	89.1
STDEV	4.69
STDERR	0.42
MIN	68.1
MAX	100
P10 .	82.6
P25 .	87
P50 .	89.6
P75 .	92.1
P90 .	94

Table 12: ASM - Rate - 18-56 Years . . 2008

N .	130
MEAN .	85.3
STDEV	5.1
STDERR .	0.45

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MIN	60
MAX	96.8
P10	79.6
P25	83.3
P50	85.6
P75	89
P90	91

Table 13: ASM - Rate - 5-11

2010	2009	
N	146	125
MEAN	91.8	91.8
STDEV	4.05	3.43
STDERR	0.33	0.31
MIN	74.3	80.4
MAX	100	99.2
P10	87.5	88.2
P25	90.1	90
P50	92.3	92.2
P75	94.3	93.9
P90	96	95.5

Table 14: ASM - Rate - 12-50

2010	2009	
N	148	125
MEAN	85.8	86
STDEV	4.25	4.14
STDERR	0.35	0.37
MIN	72.1	75.7
MAX	94.9	95.2
P10	79.8	79.9
P25	83.4	83.8
P50	86	86.3
P75	88.9	89.1
P90	91.3	90.7

**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):  
Measure is administrative only.

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

**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):  
N/A

**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): The measure is not stratified to detect disparities. NCQA has participated with IOM and others in attempting to include information on disparities in measure data collection. However, at the present time, this data, at all levels (claims data, paper chart review, and electronic



records), is not coded in a standard manner, and is incompletely captured. There are no consistent standards for what entity (physician, group, plan, employer) should capture and report this data. While “requiring” reporting of the data could push the field forward, it has been our position that doing so would create substantial burden with inability to use the data because of its inconsistency. At the present time, we agree with the IOM report that disparities are best considered by the use of geocoding analysis which has limited applicability in most reporting situations. At the health plan level, for HEDIS health plan data collection, NCOA does have extensive data related to our use of stratification by insurance status (Medicare, Medicaid and private-commercial) and would strongly recommend this process where the data base supporting the measurement includes this information. However, we believe that the measure specifications should NOT require this since the measure is still useful where the data needed to determine disparities cannot be ascertained from the data available.

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

N/A

2.1-2.3 Supplemental Testing Methodology Information:

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

Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

### 3. USABILITY

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

C.1 Intended Purpose/ Use (Check all the purposes and/or uses for which the measure is intended): Public Reporting, Quality Improvement (Internal to the specific organization), Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

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

3a. Usefulness for Public Reporting: H  M  L  I

(The measure is meaningful, understandable and useful for public reporting.)

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

This measure is used in public reporting for plans only through Healthcare Effectiveness Data and Information Set (HEDIS) and is reported through venues such as the annual State of Healthcare Quality report, Quality Compass, America’s Best Health Plans.

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: HEDIS measures adhere to the desirable attributes of scientific acceptability, feasibility and usability. The measures provide performance rates that are audited for consistency and accuracy.

3.2 Use for other Accountability Functions (payment, certification, accreditation). If used in a public accountability program,

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provide name of program(s), locations, Web page URL(s): [It is used in NCOA's Health Plan Accreditation program.](#)

**3b. Usefulness for Quality Improvement:** H  M  L  I

*(The measure is meaningful, understandable and useful for quality improvement.)*

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

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

This measure is a measure in the Healthcare Effectiveness Data and Information Set (HEDIS) and is used in NCOA's Health Plan Accreditation program.

**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:

Upon review of public comment results, the Committee on Performance Measurement approved the NCOA staff recommendation to add the measure to HEDIS. After reviewing first-year analysis results, the CPM approved the staff recommendation to publicly report the measure.

**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):* [ALL data elements are in a combination of electronic sources](#)

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

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

**4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results:**

NCOA recognizes that, despite the clear specifications defined for HEDIS measures, data collection and calculation methods may vary, and other errors may taint the results, diminishing the usefulness of HEDIS data for managed care organization (MCO) comparison. In order for HEDIS to reach its full potential, NCOA conducts an independent audit of HEDIS collection and reporting processes, as well as an audit of the data which are manipulated by those processes, in order to verify that HEDIS specifications are met. NCOA has developed a precise, standardized methodology for verifying the integrity of HEDIS collection and calculation processes through a two-part program consisting of an overall information systems capabilities assessment (IS standards) followed by an evaluation of the MCO's ability to comply with HEDIS specifications (HD standards). NCOA-certified auditors using standard audit methodologies will help enable purchasers to make more reliable "apples-to-apples" comparisons between health plans.

The HEDIS Compliance Audit addresses the following functions:

- 1) information practices and control procedures
- 2) sampling methods and procedures
- 3) data integrity
- 4) compliance with HEDIS specifications

- 5) analytic file production
- 6) reporting and documentation

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*):

[NCQA's multi-stakeholder advisory panels examined an analysis of the measure after its first year of reporting. The measure was deemed appropriate for public reporting. NCQA has processes to ensure coding and specifications are clear and updated when needed.](#)

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:

[1799 : Medication Management for People with Asthma \(MMA\)](#)

[1800 : Asthma Medication Ratio \(AMR\)](#)

#### 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? [Yes](#)

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

#### 5b. Competing Measure(s)

5b.1 If this measure has both the same measure focus and the same target population as NQF-endorsed measure(s): Describe why this measure is superior to competing measures (*e.g., a more valid or efficient way to measure quality*); OR provide a rationale for the additive value of endorsing an additional measure. (*Provide analyses when possible*):

### CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner): [National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005](#)

Co.2 Point of Contact: [Bob, Rehm, Assistant Vice President, Performance Measurement, Rehm@ncqa.org, 202-955-1728-](#)

Co.3 Measure Developer if different from Measure Steward: National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005
Co.4 Point of Contact: Bob, Rehm, Assistant Vice President, Performance Measurement, Rehm@ncqa.org, 202-955-1728-
Co.5 Submitter: Dawn, Alayon, MPH, CPH, Senior Health Care Analyst, alayon@ncqa.org, 202-955-3533-, National Committee for Quality Assurance
Co.6 Additional organizations that sponsored/participated in measure development:
Co.7 Public Contact: Bob, Rehm, Assistant Vice President, Performance Measurement, Rehm@ncqa.org, 202-955-1728-, National Committee for Quality Assurance

### ADDITIONAL INFORMATION

**Workgroup/Expert Panel involved in measure development**

Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

The Respiratory Measurement Advisory panel (RMAP) has guided NCOA staff through most of the measure development process. The RMAP provide methodological expertise as well as feedback from their respective organizations experiences in programming the measures. They evaluated the specified measures for accuracy and feasibility, assessed the content validity of measures, and reviewed field test results. RMAP membership consisted of a balanced group of experts, including representatives from academia, clinical research, provider and delivery organizations, and clinical practice. Note that, in addition to the RMAP, we also vetted these measures with a host of other stakeholders, as part of our regular HEDIS measure development process. Thus, our measures are the result of consensus from a broad and diverse group of stakeholders.

Respiratory Measurement Advisory Panel (RMAP) Members:

David Au, MD, MS, (CHAIR) Associate Prof. of Medicine/Investigator HSRD

Anne Fuhlbrigge, MD, Clinical Director, Division of Pulmonary and Critical Care Medicine

Christine Joseph, PhD, MPH, BSc, Associate Director of Research, Epidemiologist

Allan Luskin, MD, Physician Pulmonologist

Joannie Shen, MD, MPH, PhD, Medical Officer/Epidemiologist

Tom Stibolt, MD, Senior Physician

Sean Sullivan, PhD, Prof. & Director, Pharmaceutical Outcomes Research and Policy Program (PORPP) Adjunct Prof., Allergy Section, Dept. Medicine

Jerry Krishnan, MD, PhD, Prof. of Medicine & Public Health, Director of Population Health Sciences, AVP, Office of the VP for Health Affairs

Todd Lee, PharmD, PhD, Primary: Senior Investigator, Secondary: Associate Professor

Richard O'Connor, MD, Director, Dept. of Quality Management, Allergist/Immunologist

Ad.2 If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward:

**Measure Developer/Steward Updates and Ongoing Maintenance**

Ad.3 Year the measure was first released: 2005

Ad.4 Month and Year of most recent revision: 05, 2011

Ad.5 What is your frequency for review/update of this measure? Approximately every 3 years, sooner if the clinical guidelines have changed significantly.

Ad.6 When is the next scheduled review/update for this measure? 08, 2013

Ad.7 Copyright statement: © 2012 by the National Committee for Quality Assurance

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Ad.8 Disclaimers: These performance Measures are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications.

NQF #0036 Use of appropriate medications for people with asthma

THE MEASURES AND SEPCIFICATIONS ARE PROVIED "AS IS" WITHOUT WARRANTY OF ANY KIND.

Ad.9 Additional Information/Comments:

Date of Submission (MM/DD/YY): 10/18/2011