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 #: 1799 NQF Project: Pulmonary Project

(for Endorsement Maintenance Review)
Original Endorsement Date: Most Recent Endorsement Date:

BRIEF MEASURE INFORMATION

De.1 Measure Title: Medication Management for People with Asthma (MMA)

Co.1.1 Measure Steward: National Committee for Quality Assurance

De.2 Brief Description of Measure: The percentage of members 5-64 years of age during the measurement year who were identified as having persistent asthma and were dispensed appropriate medications that they remained on during the treatment period. Two rates are reported.
1. The percentage of members who remained on an asthma controller medication for at least 50% of their treatment period.
2. The percentage of members who remained on an asthma controller medication for at least 75% of their treatment period.

2a1.1 Numerator Statement: Numerator 1: The number of members who achieved a PDC* of at least 50% for their asthma controller medications during the treatment period

Numerator 2: The number of members who achieved a PDC* of at least 75% for their asthma controller medications during the treatment period

*PDC is the proportion of days covered by at least one asthma controller medication prescription in the measurement year.

2a1.4 Denominator Statement: All health plan members 5–64 years of age during the measurement year who were identified as having moderate to severe persistent asthma.

2a1.8 Denominator Exclusions: 1) 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.
2) Exclude any members who have no medications dispensed during the measurement year.

1.1 Measure Type: Process
2a1. 25-26 Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Pharmacy
2a1.33 Level of Analysis: Clinician : Group/Practice, Clinician : Individual, Clinician : Team, Facility, Health Plan, Integrated Delivery System, Population : National, Population : Regional

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

De.3 If included in a composite, please identify the composite measure (*title and NQF number if endorsed*):
N/A

STAFF NOTES (*issues or questions regarding any criteria*)

Comments on Conditions for Consideration:

Is the measure untested? Yes☐ No☐ If untested, explain how it meets criteria for consideration for time-limited endorsement:

1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (*check De.5*):
5. Similar/related endorsed or submitted measures (*check 5.1*):
Other Criteria:

Staff Reviewer Name(s):

1. IMPACT, OPPORTUITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT

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

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

De.4 Subject/Topic Areas *(Check all the areas that apply)*: Pulmonary/Critical Care, Pulmonary/Critical Care : 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, Patient/societal consequences of poor quality, Severity of illness

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

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

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)

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:
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).

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.*]
See section 2a2.3 and attachment MMA DATA for results of field test results demonstrating performance gap

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*]
N/A

1b.4 Summary of Data on Disparities by Population Group: [*For Maintenance –Descriptive statistics for performance results for this measure by population group*]
This 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 zip code analysis which has limited applicability in most reporting situations. At the health plan level, for HEDIS health plan data collection, NCQA 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☐
L	M-H	M	Yes☐ IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No☐
M-H	L	M-H	Yes☐ IF potential benefits to patients clearly outweigh potential harms: otherwise No☐
L-M-H	L-M-H	L	No ☐

Health outcome – rationale supports relationship to at least	Does the measure pass subcriterion1c?

one healthcare structure, process, intervention, or service	Yes☐ IF rationale supports relationship

1c.1 Structure-Process-Outcome Relationship *(Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome)*:
Members who regularly take their prescribed controller medications experience significantly fewer asthma exacerbations defined as either emergency department (ED) visits with asthma listed as the primary diagnosis. The intent of the measure is to have members be compliant and become an active participant in their own chronic disease management thereby minimizing the number of preventable asthma exacerbations.

1c.2-3 Type of Evidence *(Check all that apply)*:
Clinical Practice Guideline, Systematic review of body of evidence (other than within guideline development)

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)*:
Clinical practice guidelines and field research have both illustrated the significance of adherence to medication regimens in controlling asthma. The evidence suggests that asthma patients that are adherent to their prescribed medication regimens experience fewer exacerbations and thus fewer visits to the ED.
The Pharmacy Quality Alliance (PQA) has developed, tested and endorsed numerous measures of medication-use quality. PQA members identified medication adherence as an important component of medication-use quality, and therefore PQA sought to endorse a standard method for calculation of medication adherence using data that would be widely available across prescription drug plans and pharmacies. After reviewing the extant literature and conducting tests of draft measure specifications, PQA chose to endorse the method known as Proportion of Days Covered (PDC).

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: N/A

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: N/A

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 #)*:
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 diproprionate) 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 ß2 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.

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.

Singapore Ministry of Health (SMOH)
• Leukotreine 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 ß2-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:

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: Guideline(s) authors' rating of strength/category of evidence:
American College of Chest Physicians/American College of Allergy, Asthma and Immunology (ACCP/ACAAI)

Ia: Evidence from meta-analysis of randomized controlled trials
Ib: Evidence from at least one randomized controlled trial
IIa: Evidence from at least one controlled study without randomization
IIb: Evidence from at least one other type of quasi-experimental study
III: Evidence from nonexperimental descriptive studies, such as comparative studies, correlation studies, and case-control studies
IV: Evidence from expert committee reports, opinions or clinical experiences of respected authorities, or both

British Thoracic Society (BTS)

Category 1++: High quality meta analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
Category 1+: Well conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias
Category 1-: Meta-analyses, systematic reviews, or RCTs with a high risk of bias
Category 2++: High quality systematic review of case control or cohort studies
Category 2+: Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
Category 2: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
Category 3: Non-analytic studies, eg case reports, case series

Category 4: Expert opinion

Institute for Clinical Systems Improvement (ICSI)

Grade I: The evidence consists of results from studies of strong design for answering the question addressed. The results are both clinically important and consistent with minor exceptions at most. The results are free of significant doubts about generalizability, bias, and flaws in research design. Studies with negative results have sufficiently large samples to have adequate statistical power.

Grade II: The evidence consists of results from studies of strong design for answering the question addressed, but there is uncertainty attached to the conclusion because of inconsistencies among the results from different studies or because of minor doubts about generalizability, bias, research design flaws, or adequacy of sample size. Alternatively, the evidence consists solely of results from weaker designs for the question addressed, but the results have been confirmed in separate studies and are consistent with minor exceptions at most.

Grade III: The evidence consists of results from studies of strong design for answering the question addressed, but there is substantial uncertainty attached to the conclusion because of inconsistencies among the results from different studies or because of serious doubts about generalizability, bias, research design flaws, or adequacy of sample size. Alternatively, the evidence consists solely of results from a limited number of studies of weak design for answering the question addressed.

Grade Not Assignable: There is no evidence that directly supports or refutes the conclusion.

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

Category A: Randomized controlled trials (RCTs), rich body of data. Evidence is from end points of well-designed RCTs that provide a consistent pattern of findings in the population for which the recommendation is made. Category A requires substantial numbers of studies involving substantial numbers of participants.
Category B: RCTs, limited body of data. Evidence is from end points of intervention studies that include only a limited number of patients, post hoc or subgroup analysis of RCTs, or meta-analysis of RCTs. In general, category B pertains when few randomized trials exist; they are small in size, they were undertaken in a population that differs from the target population of the recommendation, or the results are somewhat inconsistent.
Category C: Nonrandomized trials and observational studies. Evidence is from outcomes of uncontrolled or nonrandomized trials or from observational studies.
Category D: Panel consensus judgment. This category is used only in cases where the provision of some guidance was deemed valuable, but the clinical literature addressing the subject was insufficient to justify placement in one of the other categories. The Panel consensus is based on clinical experience or knowledge that does not meet the criteria for categories A through C.

Singapore Ministry of Health (SMOH)

Category 1++: High quality meta-analyses, systematic reviews of randomized controlled trials (RCTs), or RCTs with a very low risk of bias.
Category 1+: Well conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias.
Category 1-: Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias.
Category 2++: High quality systematic reviews of case control or cohort studies. High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
Category 2+: Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
Category 2-: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
Category 3: Non-analytic studies, e.g. case reports, case series
Category 4: Expert opinion

1c.23 Grade Assigned to the Recommendation:

1c.24 Rationale for Using this Guideline Over Others: It is NCQA 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: High1c.27 Consistency: Moderate

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

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

2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

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

S.1 Measure Web Page *(In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained*). Do you have a web page where current detailed specifications for this measure can be obtained? 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)*:
Numerator 1: The number of members who achieved a PDC* of at least 50% for their asthma controller medications during the treatment period

Numerator 2: The number of members who achieved a PDC* of at least 75% for their asthma controller medications during the treatment period

*PDC is the proportion of days covered by at least one asthma controller medication prescription in 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*:
First the treatment period must be calculated. To determine the treatment period, calculate the number of days from the Index Prescription Start Date (IPSD) to the end of the measurement period. The IPSD is the earliest dispensing event for any asthma controller medication (Table ASM-D) during the measurement year.

To determine numerator compliance, Count the days covered by at least one prescription for an asthma controller medication (Table ASM-D) dispensed during the treatment period. To ensure that the days supply does not exceed the treatment period, subtract any days supply that extends beyond December 31 of the measurement year. Members who have multiple overlapping prescriptions should count the overlap days once towards the numerator.

Table ASM-D: Asthma Controller 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 (one calendar year) and the year prior to the measurement year (2-year denominator identification window)

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 eligible population for the denominator is defined by following the series of steps below:
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 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., measurement year or year prior to the measurement year).

Table ASM-A: Codes to Identify Asthma
ICD-9-CM Diagnosis: 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
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)*:
1) 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.
2) Exclude any members who have no medications dispensed during 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 Required Exclusions
Description: ICD-9-CM Diagnosis
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 NCQA 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.)*:
This measure determines the number of days covered with a controller medication based on information available from the published NDC codes to calculate adherence to asthma 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: Numerator: Identify the Index Prescription Dispensing Date (IPSD). The IPSD is the earliest dispensing event for any asthma controller medication (Table ASM-D) during the measurement year.
Step 5: To determine the treatment period, calculate the number of days from the IPSD (inclusive) to the end of the measurement period.
Step 6: Count the days covered by at least one prescription for an asthma controller medication (Table ASM-D) dispensed during the treatment period. To ensure that the days supply does not exceed the treatment period, subtract any days supply that extends beyond December 31 of the measurement year.
Step 7: Calculate the member's PDC using the following equation.
PDC=Total Days Covered by a Controller Medication in the Treatment Period (step 6)/Total Days in Treatment Period (step 5)

Step 8: Sum the number of members whose PDC is =50% for their treatment period.

Step 9: Sum the number of members whose PDC is =75% for their treatment period.

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 Clinical Data : Electronic Health Record, Electronic Clinical Data : Pharmacy

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, Facility, Health Plan, Integrated Delivery System, Population : National, Population : Regional

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. Nine health plans provided member-level administrative data to NCQA for the field test. 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 NCQA, 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.

2a2.2 Analytic Method *(Describe method of reliability testing & rationale)*:
The field test relied on a number of previously validated criteria for identifying an eligible population with persistent asthma using administrative claims data. Using the dataset provided by the nine health plans, NCQA examined several different scenarios to determine the effects of different specification criteria on this particular population. The ultimate objective of the field test was to determine the ability of health plans to reliably report complex administrative measures requiring multiple sources of data in addition to determining the completeness of the data for this specific population. The current HEDIS asthma specification (NQF #0036) uses multiple criteria (diagnoses, encounters, medications) collected across two years to identify members as having persistent asthma. For this field test we examined how many members met each criterion when qualifying for the denominator to assess how precisely these measures identify at-risk populations. For example, of the members identified, we determined what proportion of members were identified based on medications alone (without an asthma diagnosis) in comparison to those identified using a combination of encounters and medication-related events.
The specific objectives of the field test were to:
• Gather initial data on asthma-related medication dispensing practices
• Gather data on the level of adherence to asthma medications for persistent asthma
• Test the feasibility of implementing new effectiveness of care process measures for asthma based on administrative claims data
• Refine and calibrate the measure specifications
• Determine if significant gaps in asthma medication management practices exist that can be addressed through implementation of new NCQA Health Effectiveness and Information Data Set (HEDIS) measures.

2a2.3 Testing Results *(Reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
NCQA requested member level data from the plans in order to assess the completeness of the data required to reliably calculate

these measures. Tables 1 and 2 outline the performance rates for each product line stratified by age group and totals. The age group totals were calculated to approximate the typical HEDIS reporting strategy. Table 3 outlines the aggregate performance rates by each plan, with confidence intervals, segregated by product line.

Table 1: Field test Results for the Asthma Medication Management (Commercial)

Age	> 50% PDC	> 75% PDC
5-11	52.8%	30.0%
12-50	53.1%	30.9%
51-64	62.7%	42.2%
T1 (5-50)	53.0%	30.7%
T2 (5-64)	56.0%	34.2%

Table 2: Field test Results for the Asthma Medication Management (Medicaid)

Age	> 50% PDC	> 75% PDC
5-11	38.6%	21.2%
12-50	35.3%	20.0%
51-64	46.6%	33.8%
T1 (5-50)	36.7%	20.5%
T2 (5-64)	37.4%	21.4%

Table 3a: Field test Results for Medication Adherence Ratio by Health Plan (Commercial & Medicaid)
50% PDC

Plan #	Prod line	Rate	95% Lower CI	95% Upper CI
Plan 1	Medicaid	0.38106	0.3714	0.3907
Plan 2	Commercial	0.55019	0.5313	0.5691
Plan 3	Commercial	0.60479	0.5914	0.6182
Plan 3	Medicaid	0.34541	0.2996	0.3912
Plan 4	Commercial	0.50142	0.4903	0.5125
Plan 5	Medicaid	0.36068	0.3492	0.3722
Plan 6	Commercial	0.57503	0.5676	0.5825
Plan 6	Medicaid	0.5	0.4166	0.5834
Plan 7	Commercial	0.375	0.3266	0.4234
Plan 7	Medicaid	0.31546	0.2961	0.3348
Plan 8	Commercial	0.5248	0.4748	0.5748
Plan 8	Medicaid	0.41083	0.3854	0.4362
Plan 9	Commercial	0.58541	0.5663	0.6045
Plan 9	Medicaid	0.43912	0.4123	0.466

Table 3b: Field test Results for Medication Adherence Ratio by Health Plan (Commercial & Medicaid)
75% PDC

Plan #	Prod ln	Rate	95% Lower CI	95% Upper CI
Plan 1	Medicaid	0.22447	0.2162	0.2328
Plan 2	Commercial	0.33483	0.3169	0.3527
Plan 3	Commercial	0.3886	0.3753	0.4019
Plan 3	Medicaid	0.22705	0.1867	0.2674
Plan 4	Commercial	0.30175	0.2915	0.3120
Plan 5	Medicaid	0.20211	0.1925	0.2117
Plan 6	Commercial	0.34204	0.3349	0.3492
Plan 6	Medicaid	0.2971	0.2209	0.3733
Plan 7	Commercial	0.20052	0.1605	0.2406
Plan 7	Medicaid	0.15097	0.1361	0.1659
Plan 8	Commercial	0.32376	0.2769	0.3706
Plan 8	Medicaid	0.23525	0.2133	0.2572
Plan 9	Commercial	0.40562	0.3866	0.4246

Plan 9	Medicaid	0.27473	0.2506	0.2989

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)*:
Nine health plans covering a variety of geographic areas within the United States were asked to provide a 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 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)*:
NCQA tested the measure results for face validity using a panel of stakeholders with relevant clinical expertise and research and measurement, experience. This panel included representatives from key stakeholder groups, including the CDC, pulmonologists, provider and deliver organizations and researchers (See list of members for the Respiratory Advisory Panel (RMAP) under section Ad.1). RMAP experts reviewed the results of the field test and assessed whether the results were consistent with expectations, whether the measure represented quality care, and whether we were measuring the most important aspect of care in this area.

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 RMAP expert panel and approved by NCQA's Committee on Performance Measurement (CPM) for 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. See attachment MMA DATA for more detailed results from the measure's field test.

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, NCQA 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 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 4: 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 5: 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%

Another concern when measuring management for plan-to-plan comparison is ensuring that the majority of index prescriptions occur at a point within the measurement year (Q1, Q2, Q3, & Q4) that objectively monitors adherence without any type of adjustment. It addresses the question: Is the prescription utilization stable for this population and, if so, is the administrative data capturing index prescription start dates (IPSDs) sufficiently early in the measurement year to adequately measure medication management. The following table outlines the percentage of index prescriptions occurring in each quarter of the measurement year by cohort. The table presents the percentage of index prescriptions dispensed to members of the entire Eligible Population after comorbidity exclusions have been applied.

Table 6: Timing of Index Prescription (by Age Group and line of business)

Product	Age	Q1	Q2	Q3	Q4
Commercial	5-11	67.2%	16.1%	6.9%	5.3%
	12-50	65.1%	14.3%	6.1%	4.3%
	51-64	72.7%	12.7%	4.0%	2.5%
Medicaid					
	5-11	62.7%	15.0%	6.1%	4.9%
	12-50	55.5%	12.9%	5.8%	2.1%
	51-64	58.9%	6.3%	2.8%	2.1%

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)*:
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 persistent asthma.

2b5.2 Analytic Method *(Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance)*:
Specific calculations involve average performance rate, distribution (percentiles), 95% confidence interval of average rate across the respective health plans per by product line.

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)*:
Tables 7a and 7b outline the distribution of plan performance for the field test data set by each product line (commercial and Medicaid).

Table 7a: Medication Adherence Ratio 50% PDC

Product line	Commercial	Medicaid
Average Rate	0.53095	0.39322
95%_Lower_Confidence_Interval	0.45935	0.33552
95%_Upper_Confidence_Interval	0.60255	0.45093
Standard_deviation	0.07742	0.06239
MinRate	0.37500	0.31546
MaxRate	0.60479	0.50000
_10th_Percentile	0.37500	0.31546
_25th_Percentile	0.50142	0.34541
_50th_Percentile	0.55019	0.38106
_75th_Percentile	0.58541	0.43912
_90th_Percentile	0.60479	0.50000

Table 7b: Medication Adherence Ratio 75% PDC

Prodln	Commercial	Medicaid
AverageRate	0.32816	0.23024
95%_Lower_Confidence_Interval	0.26624	0.18622
95%_Upper_Confidence_Interval	0.39008	0.27426
Standard_deviation	0.06696	0.04760
MinRate	0.20052	0.15097
MaxRate	0.40562	0.29710
_10th_Percentile	0.20052	0.15097
_25th_Percentile	0.30175	0.20211
_50th_Percentile	0.33483	0.22705
_75th_Percentile	0.38860	0.27473
_90th_Percentile	0.40562	0.29710

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)*:
N/A

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. The NCQA 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. As indicated in the testing results presented in section 2b3.3 (see also attachment MMA DATA), administrative claims data is incomplete with regard to identifying such variables as patient race and ethnicity thereby making disparities analyses difficult.

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

2.1-2.3 Supplemental Testing Methodology Information:
Attachment
MMA DATA.docx

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

If the Committee votes No, STOP

3. USABILITY

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

C.1 Intended Purpose/ Use *(Check all the purposes and/or uses for which the measure is intended)*: Public Reporting, Quality

Improvement (Internal to the specific organization), Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

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

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

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

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): N/A

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 included in HEDIS

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 the field test results, public comment feedback and the recommendations from the RMAP, the Committee on Performance Measurement (CPM) approved the measure for HEDIS. NCQA continually collects feedback on HEDIS measures through its public Policy Clarification Support (PCS) system, through frequent educations presentations, and thorough the NQF endorsement review committees. HEDIS measure specifications are updated annually and external feedback from user experience in implementing the measures is seriously considered as part of this annual review. HEDIS measures also undergo a major re-evaluation on a regular three year cycle which can necessitate additional testing based on user experience feedback and analysis of results from a national multi-year implementation and reporting.

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), Abstracted from a record

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

4b. Electronic Sources: H☐ M☐ L☐ I ☐

4b.1 Are the data elements needed for the measure as specified available electronically *(Elements that are needed to compute measure scores are in defined, computer-readable fields)*: 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:
NCQA 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, NCQA 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. NCQA 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). NCQA-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 will examine an analysis of the measure after its first year of 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:
0036 : Use of appropriate medications for people with asthma
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)*:
This measure's eligible population and denominator criteria are built off the same validated methodology as NQF #0036 "Use of Appropriate Medications for People with Asthma." The measure concepts including reporting strata and clinical exclusions were kept closely aligned with the currently endorsed measure to ensure harmonization with currently endorsed NQF specifications however it is an addition to the suite and is not intended to be a replacement or substitution of #0036.

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, rehm@ncqa.org, 202-955-1728-

Co.5 Submitter: Bob, Rehm, Assistant Vice President, Performance Measurement, rehm@ncqa.org, 202-955-1728-, 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 NCQA 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: 2010
Ad.4 Month and Year of most recent revision: 05, 2011
Ad.5 What is your frequency for review/update of this measure? Every 3 years or when clinical guidelines are updated
Ad.6 When is the next scheduled review/update for this measure? 08

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.

THE MEASURES AND SEPCIFICATIONS ARE PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND.

Ad.9 Additional Information/Comments:

Date of Submission (*MM/DD/YY*): 01/13/2012

MMA DATA

Table A. Asthma Medication Adherence (by Age Group) For Each Participating Plan

Plan	Product Line	Age Group	Denominator	Medication Adherence Ratio			
				≥ 50% PDC		≥ 75% PDC	
				Numerator	Rate	Numerator	Rate
A	Medicaid	5-11	3073	1251	0.40709	686	0.22323
		12-50	5575	1928	0.34583	1105	0.19821
		51-64	1046	515	0.49235	385	0.36807
		Total 1 (5-50)	8648	3179	0.3676	1791	0.2071
		Total 2 (5-64)	9694	3694	0.38106	2176	0.22447
C	Commercial	5-11	345	171	0.49565	95	0.27536
		12-50	1496	773	0.51671	444	0.29679
		51-64	829	525	0.63329	355	0.42823
		Total 1 (5-50)	1841	944	0.51276	539	0.29278
		Total 2 (5-64)	2670	1469	0.55019	894	0.33483
D	Commercial	5-11	726	395	0.54408	226	0.31129
		12-50	2789	1595	0.57189	973	0.34887
		51-64	1624	1118	0.68842	798	0.49138
		Total 1 (5-50)	3515	1990	0.56615	1199	0.34111
		Total 2 (5-64)	5139	3108	0.60479	1997	0.3886
D	Medicaid	5-11	127	37	0.29134	26	0.20472
		12-50	242	88	0.36364	57	0.23554
		51-64	45	18	0.4	11	0.24444
		Total 1 (5-50)	369	125	0.33875	83	0.22493
		Total 2 (5-64)	414	143	0.34541	94	0.22705
B	Commercial	5-11	1390	649	0.46691	385	0.27698
		12-50	4394	2091	0.47588	1181	0.26878
		51-64	1974	1150	0.58257	775	0.3926
		Total 1 (5-50)	5784	2740	0.47372	1566	0.27075
		Total 2 (5-64)	7758	3890	0.50142	2341	0.30175
E	Medicaid	5-11	3222	1175	0.36468	657	0.20391
		12-50	3305	1173	0.35492	649	0.19637
		51-64	202	79	0.39109	54	0.26733
		Total 1 (5-50)	6527	2348	0.35974	1306	0.20009
		Total 2 (5-64)	6729	2427	0.36068	1360	0.20211
F	Commercial	5-11	2787	1549	0.55579	852	0.30571
		12-50	8822	4827	0.54715	2769	0.31387
		51-64	5430	3422	0.6302	2207	0.40645
		Total 1 (5-50)	11609	6376	0.54923	3621	0.31191
		Total 2 (5-64)	17039	9798	0.57503	5828	0.34204
F	Medicaid	5-11	50	21	0.42	5	0.1

MMA DATA

Plan	Product Line	Age Group	Denominator	Medication Adherence Ratio			
				≥ 50% PDC		≥ 75% PDC	
				Numerator	Rate	Numerator	Rate
		12-50	79	44	0.55696	33	0.41772
		51-64	9	4	0.44444	3	0.33333
		Total 1 (5-50)	129	65	0.50388	38	0.29457
		Total 2 (5-64)	138	69	0.5	41	0.2971
G	Commercial	5-11	72	21	0.29167	12	0.16667
		12-50	208	72	0.34615	33	0.15865
		51-64	104	51	0.49038	32	0.30769
		Total 1 (5-50)	280	93	0.33214	45	0.16071
		Total 2 (5-64)	384	144	0.375	77	0.20052
G	Medicaid	5-11	890	301	0.3382	139	0.15618
		12-50	1179	335	0.28414	156	0.13232
		51-64	150	64	0.42667	40	0.26667
		Total 1 (5-50)	2069	636	0.30739	295	0.14258
		Total 2 (5-64)	2219	700	0.31546	335	0.15097
H	Commercial	5-11					
		12-50	147	78	0.53061	42	0.28571
		51-64	236	123	0.52119	82	0.34746
		Total 1 (5-50)	147	78	0.53061	42	0.28571
		Total 2 (5-64)	383	201	0.5248	124	0.32376
H	Medicaid	5-11	589	238	0.40407	126	0.21392
		12-50	852	354	0.41549	213	0.25
		51-64					
		Total 1 (5-50)	1441	592	0.41083	339	0.23525
		Total 2 (5-64)	1441	592	0.41083	339	0.23525
I	Commercial	5-11	365	215	0.58904	137	0.37534
		12-50	1433	801	0.55897	523	0.36497
		51-64	766	485	0.63316	380	0.49608
		Total 1 (5-50)	1798	1016	0.56507	660	0.36707
		Total 2 (5-64)	2564	1501	0.58541	1040	0.40562
I	Medicaid	5-11	446	218	0.48879	138	0.30942
		12-50	750	308	0.41067	185	0.24667
		51-64	118	51	0.4322	38	0.32203
		Total 1 (5-50)	1196	526	0.4398	323	0.27007
		Total 2 (5-64)	1314	577	0.43912	361	0.27473

MMA DATA

Table B: Field test Results for the Asthma Management Measure (aggregate)

		Medication Management				
			> 50% PDC		> 75% PDC	
Product Line	Age Group	Den	Num	Rate	Num	Rate
Commercial	5-11	5,685	3,000	52.8%	1,707	30.0%
	12-50	19,289	10,237	53.1%	5,965	30.9%
	51-64	10,963	6,874	62.7%	4,629	42.2%
	Total 1 (5-50)	24,974	13,237	53.0%	7,672	30.7%
	Total 2 (5-64)	35,937	20,111	56.0%	12,301	34.2%
Medicaid	5-11	8,397	3,241	38.6%	1,777	21.2%
	12-50	11,982	4,230	35.3%	2,398	20.0%
	51-64	1,570	731	46.6%	531	33.8%
	Total 1 (5-50)	20,379	7,471	36.7%	4,175	20.5%
	Total 2 (5-64)	21,949	8,202	37.4%	4,706	21.4%

Table C: Impact of Co-morbidity Exclusions on the Eligible Populations

			Eligible Population Excluded for a comorbidity					
	Age Group	EP	Any	COPD	Chronic Bronchitis	Emphysema	Cystic Fibrosis	Acute Respiratory Syndrome
Commercial	5 - 11	6,031	5.7%	3.7%	1.3%	0.3%	0.8%	1.0%
	12 - 50	22,855	16.2%	14.2%	4.1%	0.9%	0.6%	1.3%
	51 - 64	18,154	41.5%	39.6%	15.6%	6.4%	0.1%	3.5%
	Total1(5-50)	28,886	14.1%	12.0%	3.5%	0.8%	0.6%	1.3%
	Total2(5-64)	47,040	24.6%	22.6%	8.2%	3.0%	0.4%	2.1%
Medicaid	5 - 11	8,614	3.8%	2.7%	0.4%	0.1%	0.4%	0.6%
	12 - 50	14,337	18.3%	16.6%	3.4%	1.3%	0.4%	2.6%
	51 - 64	4,432	45.2%	43.7%	13.8%	6.7%	0.2%	7.4%
	Total1(5-50)	22,951	12.8%	11.4%	2.3%	0.8%	0.4%	1.8%
	Total2(5-64)	27,383	18.1%	16.6%	4.2%	1.8%	0.3%	2.7%

MMA DATA

Table D: Timing of Index Prescription (by Age Group)

	Age Group	Q1 %	Q2 %	Q3 %	Q4 %
Commercial	5-11	67.2%	16.1%	6.9%	5.3%
	12-50	65.1%	14.3%	6.1%	4.3%
	51-64	72.7%	12.7%	4.0%	2.5%
	Total1(5-50)	65.6%	14.7%	6.3%	4.6%
	Total2(5-64)	67.7	24.3%	10.4%	7.6%
Medicaid	5-11	62.7%	15.0%	6.1%	4.9%
	12-50	55.5%	12.9%	5.8%	4.3%
	51-64	58.9%	6.3%	2.8%	2.1%
	Total1(5-50)	58.4%	13.8%	5.9%	4.6%
	Total2(5-64)	94.7%	21.5%	9.2%	7.1%

Table E: Incomplete Race/Ethnicity Data for the Eligible Population by Plan

Product Line	Plan	N (EP)	Incomplete Data Categories % Missing	% Unknown	% Blank
Commercial	B	10,497	0.1%	0.0%	0.0%
	C	3,129	0.0%	0.0%	0.0%
	D	5,874	43.8%	0.0%	0.0%
	F	23,020	31.3%	4.8%	0.0%
	G	453	41.3%	1.5%	0.0%
	H	629	84.9%	0.0%	0.0%
	I	3,920	0.0%	0.0%	0.0%
Medicaid	A	12,243	0.0%	0.0%	0.0%
	D	467	19.7%	0.0%	0.0%
	E	7,124	0.0%	0.0%	0.0%
	F	176	17.0%	0.6%	0.0%
	G	2,577	7.9%	4.8%	0.0%
	H	1,446	91.7%	0.0%	0.0%
	I	2,868	0.0%	0.0%	1.8%

Table F: Distribution of Rate and the 95% Confidence Interval for average rate across all plans by measure, indicator and Product Line

	Product Line	Ave Rate	Lower 95% CI	Upper 95% CI	Standard Deviation	Min Rate	Max Rate	10th	25th	50th	75th	90th
50% PDC	Commercial	0.53095	0.45935	0.60255	0.07742	0.37500	0.60479	0.37500	0.50142	0.55019	0.58541	0.60479
	Medicaid	0.39322	0.33552	0.45093	0.06239	0.31546	0.50000	0.31546	0.34541	0.38106	0.43912	0.50000
75% PDC	Commercial	0.32816	0.26624	0.39008	0.06696	0.20052	0.40562	0.20052	0.30175	0.33483	0.38860	0.40562
	Medicaid	0.23024	0.18622	0.27426	0.04760	0.15097	0.29710	0.15097	0.20211	0.22705	0.27473	0.29710