

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 #: 1876	NQF Project: Pulmonary Project
(for Endorsement Maintenance Review)	
Original Endorsement Date: Most Recent Endorsement Date:	
BRIEF MEASURE INFORMATION	
De.1 Measure Title: Optimal Asthma Care	
Co.1.1 Measure Steward: MN Community Measurement	
<p>De.2 Brief Description of Measure: The Optimal Asthma Care measure is an all-or-none, composite measure. The measure reflects the percentage of patients ages 5-50 (pediatrics ages 5-17) who have optimally managed asthma with all of following components met: a) Asthma is well-controlled; b) Patient is not at increased risk of exacerbations; and c) Patient has been educated and has a current, written asthma action/management plan.</p> <p>Asthma control is assessed using one of three validated asthma control tools. Asthma risk of exacerbations is assessed by asking the patient about emergency department visits and hospitalizations due to asthma in the past 12 months. Asthma education with a current, written asthma management/action plan is completed using an asthma action plan that contains information on: medication doses and purposes, how to recognize and what to do during an exacerbation, and the patient's triggers.</p>	
<p>2a1.1 Numerator Statement: The numerator is the number of patients ages 5-50 who meet all components of the measure (see below). (MN Community Measurement stratifies data by age group: Children ages 5-17 and Adults ages 18-50).</p> <p>a) Asthma well-controlled as demonstrated by the use of one of four validated asthma control tests that scores the patient as "in-control" or "well-controlled".</p> <p>b) Patient is not at elevated risk of exacerbation as evidenced by patient reported emergency department visits and inpatient hospitalizations due to asthma in the past 12 months. The total number of emergency department visits and hospitalizations due to asthma must be less than 2.</p> <p>c) Patient has been educated about his or her asthma and self-management of the condition with a written asthma management plan present (created or reviewed and revised within the measurement period) that contains information about the patient's triggers, the patients medication doses and effects of those medications, and what to do during an exacerbation.</p>	
2a1.4 Denominator Statement: Patients ages 5 to 50 with asthma who have at least two visits for this diagnosis in the last 24 months (established patient) and who have had at least one visit in the last 12 months.	
2a1.8 Denominator Exclusions: Valid exclusions include patients who only had one visit to the clinic for asthma during the last two years, patients who are nursing home residents, in hospice, or have died, or patients who have COPD, emphysema, cystic fibrosis, or acute respiratory failure.	
1.1 Measure Type: Outcome	
2a1. 25-26 Data Source: Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry, Paper Records	
2a1.33 Level of Analysis: Clinician : Group/Practice	
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):
 This is an all-or-none, composite measure calculated at the patient level; each individual patient needs to meet all three components to be considered in the numerator. All components are contained within this measure and the measure is not paired with another measure.

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, 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 : Asthma
 De.5 Cross Cutting Areas (Check all the areas that apply): Functional Status, Patient and Family Engagement

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

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

1a.3 Summary of Evidence of High Impact (Provide epidemiologic or resource use data):
 Asthma is a chronic condition that affects every demographic of the population however it disproportionately affects children, minorities, and persons of lower socioeconomic status.

In 2009, current asthma prevalence was 8.2% of the U.S. population (24.6 million people); within population subgroups it was higher among females, children, persons of non-Hispanic black and Puerto Rican race or ethnicity, persons with family income below the poverty level, and those residing in the Northeast and Midwest regions. In 2008, persons with asthma missed 10.5 million school days and 14.2 million work days due to their asthma. In 2007, there were 1.75 million asthma-related emergency department visits and 456,000 asthma hospitalizations. Asthma emergency visit and hospitalization rates were higher among females than males, among children than adults, and among black than white persons. Despite the high burden from adverse impacts, use of some asthma management strategies based on clinical guidelines for the treatment of asthma remained below the targets set by the Healthy People 2010 initiative.

In Minnesota, approximately 76,000 children (6%) and 260,000 adults (9.6%) have asthma, affecting females (7.7%) slightly more frequently than males (5.5%). 13.9% of black Minnesotans reported that they currently have asthma, compared to 7.3% for whites. Adults living in the metropolitan area are more likely to have asthma and have increased emergency depart visits for asthma than those living in rural Minnesota. In 2009 there were sixty asthma related deaths in our state.

In the United States, asthma costs \$20.7 billion per year, including \$15.6 billion in direct and \$5.1 billion in indirect costs.

In Minnesota, it is estimated that, in 2004, asthma cost \$240 million directly in hospitalizations, emergency department visits, office visits, and medications, and \$181 million indirectly in lost school and work days, for total of \$421 million. The total costs for asthma in Minnesota for 2003 were estimated at \$363.9 million, including \$208.6 million in direct costs of office visits, emergency department visits, hospitalizations and medications, and \$155.3 in indirect costs of missed school and work days.

1a.4 Citations for Evidence of High Impact cited in 1a.3: <http://www.cdc.gov/nchs/data/nhsr/nhsr032.pdf>
<http://www.health.state.mn.us/asthma/documents/asthmainmn2011.pdf>
www.health.state.mn.us/divs/hpcd/cdee/asthma/documents/asthmainmn2011.pdf
 Minnesota Student Survey, 2010
 Minnesota Behavioral Risk Factor Surveillance System, 2009
 Minnesota Center for Health Statistics, 2009
<http://apps.nccd.cdc.gov/brfss/race.asp?yr=2007&state=MN&qkey=4416&grp=0>

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:
 Through the collection of data and reporting of Optimal Asthma Care rates, it is hoped that improvements are seen in the number of patients who receive care that are based on clinical guidelines, including the assessment of asthma control and their risk along with a combined offering of self-education as evidenced through the presence of a written asthma management plan.

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.]

Statewide Average Optimal Asthma Care Rates
 2011 Report Year (Dates of Service 7/1/2010-6/30/2011)
 Age Groups: Adults (ages 18-50) and Children (ages 5-17)
 Below are results from data submitted by clinics in 2011, stratified by age group (adults and children). The overall statewide average rates are the percentages of patients who met all three component targets in the composite measure and considered optimally managed. These rates are weighted averages of the total population of patients for clinics submitting data. There is wide variability in the low and high scores for both age groups (0% to 100%). More than 70% of clinics performed between 0% and 9.9%, indicating future improvement opportunities (e.g., implementation of an asthma control tool, assessing risk of asthma exacerbation, or documentation of a written asthma action plan provided to the patient).

Adult Statewide Average Rate: 15.7%
 Number of eligible patients = 49,183
 Number of patients submitted for rate calculation = 45,292 (some clinics submitted a sample of data, therefore the total number of eligible patients is higher)
 Mean = 15.7%
 Median = 0.0%
 Standard Deviation = 0.17
 Min = 0%
 Max = 100%

Adult Rate Ranges, Percentage of Clinics:
 0%-9.9% = 74.01%
 10%-19.9% = 6.25%
 20%-29.9% = 5.43%
 30%-39.9% = 4.93%
 40%-49.9% = 4.28%
 50%-59.9% = 3.95%
 60%-69.9% = 0.49%
 70%-79.9% = 0.33%
 80%-89.9% = 0.16%
 90%-99.9% = 0.0%

100% = 0.16%

Child Statewide Average Rate: 24.3%

Number of eligible patients = 35,560

Number of patients submitted for rate calculation = 28,210 (some clinics submitted a sample of data, therefore the total number of eligible patients is higher)

Mean = 24.3%

Median = 0.5%

Standard Deviation = 0.19

Min = 0%

Max = 100%

Child Rate Ranges, Percentage of Clinics

0%-9.9% = 72.37%

10%-19.9% = 5.43%

20%-29.9% = 5.10%

30%-39.9% = 5.26%

40%-49.9% = 5.10%

50%-59.9% = 3.13%

60%-69.9% = 1.81%

70%-79.9% = 0.99%

80%-89.9% = 0.33%

90%-99.9% = 0.16%

100% = 0.33%

Percentage of clinics that submitted total population data:

93% (the remaining clinics submitted a random sample)

Component Rates (by age group):

Adults:

Well Controlled = 25%

Low Risk of Exacerbation = 34%

Education (Written Plan) = 27%

Children:

Well Controlled = 37%

Low Risk of Exacerbation = 46%

Education = 44%

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*]

Publicly reported data with clinic level rates is available on the MN HealthScores website www.mnhealthscores.org. Additionally, for more detailed information including highlights of top performers, breakdown by clinic site with confidence intervals please refer to our Health Care Quality Report posted on our corporate website at: http://www.mncm.org/site/?page=our_work&view=2 (at the time of this application for endorsement, the 2011 Health Care Quality Report is planned to be posted February 2012).

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

Asthma is a chronic condition that affects every demographic of the population however it disproportionately affects children, minorities, and persons of lower socioeconomic status.

In Minnesota, approximately 76,000 children (6%) and 260,000 adults (9.6%) have asthma, affecting females (7.7%) slightly more frequently than males (5.5%). 13.9% of black Minnesotans reported that they currently have asthma, compared to 7.3% for whites. Adults living in the metropolitan area are more likely to have asthma and have increased emergency department visits for asthma than

those living in rural Minnesota. In 2009 there were sixty asthma related deaths in our state.

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*]

www.health.state.mn.us/divs/hpcd/cdee/asthma/documents/asthmainmn2011.pdf

Minnesota Student Survey, 2010

Minnesota Behavioral Risk Factor Surveillance System, 2009

Minnesota Center for Health Statistics, 2009

<http://apps.nccd.cdc.gov/brfss/race.asp?yr=2007&state=MN&qkey=4416&grp=0>

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

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

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

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service

Does the measure pass subcriterion1c?
 Yes IF rationale supports relationship

1c.1 Structure-Process-Outcome Relationship (*Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome*):

The Optimal Asthma Care measure is an all or none composite that consists of two outcome measures (control and risk) and one process measure (written asthma plan). The three components for the Optimal Asthma Care measure draw heavily on the recommendations of three sets of clinical guidelines: the National Heart, Lung, and Blood Institute EPR-3 2007 (NHLBI), the Global Initiative for Asthma (GINA) updated in 2008, and again in December 2009, and the Institute for Clinical Systems Improvement (ICSI) Asthma Guideline updated in 2008 and again in June 2010.

Asthma control is stated by clinical guidelines to be the primary goal of asthma therapy. The use of asthma control identifies a patient’s level of impairment due their condition. The assessment of risk is included in the guidelines as an important complimenting assessment of overall asthma control based on past experience. It is considered a separate determining point from the level of impairment due to asthma. The use of education and self-management is noted by guidelines as a key management tool to promote asthma control for patients.

National Heart Blood and Lung Institute - www.nhlbi.nih.gov/guidelines/asthma

Global Initiative for Asthma- www.ginasthma.org/uploads/users/files/GINA_Report_2011.pdf

Institute for Clinical Systems Improvement-

www.icsi.org/guidelines_and_more/gl_os_prot/respiratory/asthma_outpatient/asthma_diagnosis_and_outpatient_management_of_12572.html

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*):

Asthma control, risk, and education are all mentioned in the guidelines as important components for the management of patients

with asthma. For asthma control, both the GINA and NHLBI guidelines recommend that asthma control be the primary goal of asthma care and management [NHLBI evidence rating A = randomized control trials and rich body of data]. The use of validated control tools to monitor asthma control is mentioned by all three guidelines as appropriate means for assessing control. According to the GINA guidelines, "[The validated asthma control tools] have the potential to improve the assessment of asthma control, providing a reproducible objective measure that may be charted over time (week by week or month by month) and representing an improvement in communication between patient and health care professional." The NHLBI guidelines suggest that asthma control should be the impetus for adjusting asthma treatment. In addition to guideline recommendations, a review of asthma medical research during the development of the Optimal Asthma Care measure found evidence that asthma control is correlated with improved health outcomes in patients with asthma.

For the assessment of asthma risk the use of self-reported patient emergency department visits and inpatient hospitalizations due to asthma is used as a way to assess past exacerbations. The use of these services is intended to serve also as a proxy for the use of inhaled systemic corticosteroids. The use of two or more inhaled systemic corticosteroids during a year is considered by all three guidelines to be correlated with not-well controlled asthma. According to NHLBI guidelines, "some assessment of the risk of exacerbations can be inferred from the medical history. Patients who have had exacerbations requiring emergency department (ED) visits, hospitalization, or intensive care unit (ICU) admission, especially in the past year, have a great risk of exacerbations in the future (Adams et al. 2000; Eisner et al. 2001; Lieu et al. 1998)."

There is evidence to support that the use of patient report for hospital visits and emergency department visits is a reliable source of information. This information was reviewed during the measure development process.

Asthma education is the final component mentioned by all three clinical guidelines as an important aspect of asthma management. According to the GINA guidelines, "Personal asthma action plans help individuals with asthma make changes to their treatment in response to changes in their level of asthma control, as indicated by symptoms and/or peak expiratory flow, in accordance with written predetermined guidelines. The effects were greatest where the intervention involved each of the following elements: education, self-monitoring, regular review, and patient-directed self-management using a written self-management action plan." [GINA evidence rating = A randomized control trials and rich body of data] The NHLBI guidelines have a similar statement, "Provide to all patients a written asthma action plan that includes instructions for both daily management (long-term control medication, if appropriate, and environmental control measures) and actions to manage worsening asthma (what signs, symptoms, and PEF measurements (if used) indicate worsening asthma; what medications to take in response, what signs and symptoms indicate the need for immediate medical care). Written asthma action plans are particularly recommended for patients who have moderate or severe persistent asthma (i.e., requiring treatment at step 4, 5, or 6), a history of severe exacerbations, or poorly controlled asthma." [GINA evidence rating = B = RCTs, limited body of data] Finally, the ICSI guidelines recommend these key points: a) Asthma self-management education is essential to providing patients the skills necessary to control asthma and improve outcomes; and b) Asthma self-management education should be integrated into all aspects of asthma care and requires repetition and reinforcement. Furthermore the ICSI guidelines state, "This guideline recommends the use of written action plans as part of an overall effort to educate patients in self-management and is especially beneficial for patients with moderate or severe persistent asthma and patients with a history of severe exacerbations." Evidence around the use of written asthma management plans found that the use of plans alone to have inconclusive correlations to improved health outcomes, however, research around the use of asthma management plans in conjunction with self-management education has been correlated with improved health outcomes.

1c.5 Quantity of Studies in the Body of Evidence (*Total number of studies, not articles*): The measure development workgroup relied on national and international guidelines of care for patients with asthma for determining important components of care that were appropriate for measurement and inclusion in the all-or-none composite of optimal care. The quantity of studies included in these guidelines is extensive. Please refer to the following guidelines:

National Heart Blood and Lung Institute

Global Initiative for Asthma

Institute for Clinical Systems Improvement

URL's for each guideline are contained in question 1.c.1

1c.6 Quality of Body of Evidence (*Summarize the certainty or confidence in the estimates of benefits and harms to patients across studies in the body of evidence resulting from study factors. Please address: a) study design/flaws; b) directness/indirectness of the evidence to this measure (e.g., interventions, comparisons, outcomes assessed, population included in the evidence); and c) imprecision/wide confidence intervals due to few patients or events*): The measure development workgroup relied on national and international guidelines of care for patients with asthma for determining important components of care that were appropriate for measurement and inclusion in the all-or-none composite of optimal care. Please refer to the

references contained in the response for question 1.c.4.

1c.7 Consistency of Results across Studies (*Summarize the consistency of the magnitude and direction of the effect*): The measure development workgroup relied on national and international guidelines of care for patients with asthma for determining important components of care that were appropriate for measurement and inclusion in the all-or-none composite of optimal care. Please refer to the guidelines referenced in question 1c.c1

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

All guidelines strongly recommend a focus on asthma control and reducing the risk of exacerbations. The workgroup believes that an all or none composite measure that focuses on these functional status outcomes in addition to the inclusion of a process measure that is supporting better patient awareness and self-management is beneficial towards improving the health outcomes for patients with asthma.

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

1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias: NHLBI guidelines follow the evidence grading method outlined on their website at: http://www.nlm.nih.gov/guidelines/asthma/02_sec1_intro.pdf

GINA utilizes a rating system that appears to be identical to the system used by NHLBI
http://www.ginasthma.org/uploads/users/files/GINA_Report_2011.pdf

The ICSI guidelines grade evidence along 4 classes of primary research and 3 classes of research collections or synthesis of primary research. Available within the asthma guidelines available on-line at:
http://www.icsi.org/guidelines_and_more/gl_os_prot/respiratory/asthma_outpatient/asthma_diagnosis_and_outpatient_management_of_12572.html.

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

1c.12 If other, identify and describe the grading scale with definitions: NHLBI Grading used for Asthma Guidelines August 2007

GINA Global Initiative for Asthma also uses this same rating system

- Evidence 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.

- Evidence 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.

- Evidence Category C: Nonrandomized trials and observational studies.

Evidence is from outcomes of uncontrolled or nonrandomized trials or from observational studies.

- Evidence 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.

ICSI Evidence Grading

Primary Reports of New Data Collection

- o Grade A- randomized, controlled trial

- o Grade B- cohort study

- o Grade C- nonrandomized trial with concurrent or historical controls, case-control study, study of sensitivity and specificity of a diagnostic test, or population-based descriptive study

- o Grade D- cross-sectional study, case series, case report

Reports that Synthesize or Reflect Upon Collections of Primary Reports

- o M = meta-analysis, systematic review, decision analysis, cost-effectiveness analysis
- o R = consensus statement, consensus report, narrative review
- o X = medical opinion

1c.13 Grade Assigned to the Body of Evidence: The grades assigned to the bodies of evidence are primarily category A and one category B. Bodies of evidence assigned category A include a rich body of evidence. Bodies of evidence assigned category B include random control trials with a limited body of evidence.

1c.14 Summary of Controversy/Contradictory Evidence: The following controversies were discussed and addressed during the measure development process:

1. Severity assessment using spirometry: While an important aspect of asthma assessment and management, the inclusion of severity assessment was not selected because the focus of the measure remained on maintaining asthma control as opposed to the diagnosis and evaluation of asthma.
2. Inhaled systemic corticosteroid use: The group considered patient self-report of systemic oral corticosteroid use outside of the emergency department or hospital (e.g. given in physician offices) to more completely assess risk of exacerbations. However, this portion of the measure was removed during committee review due to lack of evidence that patient report of inhaled systemic corticosteroids is valid and/or reliable.
3. Tobacco use and exposure: One of the components considered but not included in the Optimal Asthma Measure is assessment of patient use and exposure to tobacco smoke. This component has a clear impact on health outcomes and was originally recommended for inclusion. However, it did not make it into the final measure due to the difficulties in attributing provider accountability to exposure along with the idea that exacerbations and symptoms caused by the use and exposure of tobacco smoke would manifest themselves within the control component.
4. Use of asthma control tools: There were suggestions to use provider assessment of asthma control without requiring the use of an asthma control tool. However, the measurement group determined that for comparability among different clinic sites, the level of standardization needed would be most efficiently met by the use of an asthma control tool.

The following controversy was discussed during measure implementation:

1. Use of written asthma management plan: There were concerns raised by some providers in the community who felt the written asthma action plan should not be included as one of the components in the composite measure. These providers felt that the action plan would measure process and not outcomes, and they also felt the plan is costly to implement and that there is limited evidence that an asthma action plan is necessary for patients with mild intermittent asthma. A workgroup was convened to discuss this controversy. Other providers noted that asthma severity can fluctuate, making it burdensome to determine which patients should receive an asthma action plan. They noted that it is important for all patients, regardless of severity, to have a current asthma action plan in place. A majority vote was in favor of keeping the asthma action plan as a component of the measure because it is a useful tool in educating patients with asthma and is beneficial in improving patient outcomes.

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

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

NHLBI EPR-3 Guidelines

Component 1: Assessing and Monitoring Asthma Severity and Asthma Control

The functions of assessment and monitoring are closely linked to the concepts of severity, control, and responsiveness to treatment ...

(see full component starting on page 15)

Component 2: Education for a Partnership in Care

A partnership between the clinician and the person who has asthma (and the caregiver, for children) is required for effective asthma management. By working together, an appropriate treatment can be selected, and the patient can learn self-management skills necessary to control asthma. Self-management education improves patient outcomes (e.g., reduced urgent care visits, hospitalizations, and limitations on activities as well as improved health status, quality of life, and perceived control of asthma) and

can be cost-effective. Self-management education is an integral component of effective asthma care and should be treated as such by health care providers as well as by health care policies and reimbursements.
(see full component starting on page 18)

GINA Guidelines

Chapter 4: Asthma Management and Prevention

Component 3: Assess, Treat and Monitor Asthma

KEY POINTS:

- The goal of asthma treatment to achieve and maintain clinical control, can be reached in a majority of patients with a pharmacologic intervention strategy developed in partnership between the patient/family and the doctor.
- Treatment should be adjusted in a continuous cycle driven by the patients' asthma control status. If asthma is not controlled on the current treatment regimen, treatment should be stepped up until control is achieved. When control is maintained for at least three months, treatment can be stepped down.
- In treatment-naïve patients with persistent asthma, treatment should be started at Step 2, or, if symptomatic (uncontrolled), at Step 3. For Steps 2 through 5, a variety of controller medications are available.
- At each treatment step, reliever medication should be provided for quick relief of symptoms as needed.
- Ongoing monitoring is essential to maintain control and to establish the lowest step and dose of treatment to minimize cost and maximize safety.

(see full component starting on page 63)

ICSI Asthma Guideline

Annotation 11: Evaluation

Key Points:

Evaluation of asthma should include the following:

- Medical history
- Use of a validated asthma questionnaire
- Assess asthma triggers/allergens
- Physical examination
- Measure lung function
- Consider specialty consultation

Medical History

- Disruption of usual activities (work, school, home)
- Sleep disturbance

Diagnosis and Management of Asthma

- Level of usage of short-acting beta2-agonist
- Adherence to medical treatment plan
- Interval exacerbation of symptoms (either treated by self or a health care provider)
- Symptoms suggesting comorbid conditions or alternative diagnosis
- Side effects of medications

Reassessment of medical history can elicit factors that effect overall asthma control and sense of well-being (Juniper, 1993 [D]).

The key symptoms that should alert the clinician include disruptive daytime symptoms and disturbances of sleep, and symptoms early in the morning that do not improve fifteen minutes after using short-acting beta2-agonist. The quantity of short-acting beta2-agonist that is being used should be discussed since overuse can be a marker of the potentially fatality-prone asthmatic (Spitzer, 1992 [C]). The use of a quality-of-life tool or questionnaire can assist to elicit history (Juniper, 1992 [D]).

(see full annotation starting on page 17)

Annotation 12: Determine Level of Asthma Control

Key Points:

- The level of control is based on the most severe impairment or risk category.
- The level of asthma control (well controlled, not well controlled, or poorly controlled) is the degree to which both dimensions of the manifestations of asthma – impairment and risk – are minimized by therapeutic intervention.
- The level of control at the time of follow-up assessment will determine clinical actions – that is, whether to maintain or adjust therapy.

(see full annotation starting on page 20)

Annotation 14: Asthma Education

Key Points:

- Asthma self-management education is essential to provide patients with the skills necessary to control asthma and improve outcomes.
- Asthma self-management education should be integrated into all aspects of asthma care, and it requires repetition and reinforcement.

(see full annotation starting on page 26)

1c.17 Clinical Practice Guideline Citation: NHLBI EPR-3 guidelines (summary):

<http://www.nlm.nih.gov/guidelines/asthma/asthsumm.pdf>

(full report is located: <http://www.nlm.nih.gov/guidelines/asthma/>)

GINA: http://www.ginasthma.org/uploads/users/files/GINA_Report_2011.pdf

ICSI:

http://www.icsi.org/guidelines_and_more/gl_os_prot/respiratory/asthma_outpatient/asthma_diagnosis_and_outpatient_management_of_12572.html

1c.18 National Guideline Clearinghouse or other URL: www.guideline.gov

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

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias: Please refer to the entities that graded recommendations as follows: NHLBI:

http://www.nlm.nih.gov/guidelines/asthma/01_front.pdf (starting on page xi); GINA:

http://www.ginasthma.org/uploads/users/files/GINA_Report_2011.pdf (starting on page i); ICSI:

http://www.icsi.org/asthma_outpatient/asthma_diagnosis_management_of_guideline.html (page 3)

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

1c.22 If other, identify and describe the grading scale with definitions: NHBLI Grading used for Asthma Guidelines August 2007

GINA Global Initiative for Asthma also uses this same rating system

- Evidence 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.

- Evidence 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.

- Evidence Category C: Nonrandomized trials and observational studies.

Evidence is from outcomes of uncontrolled or nonrandomized trials or from observational studies.

- Evidence 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.

ICSI Evidence Grading

Primary Reports of New Data Collection

- o Grade A- randomized, controlled trial
- o Grade B- cohort study
- o Grade C- nonrandomized trial with concurrent or historical controls, case-control study, study of sensitivity and specificity of a diagnostic test, or population-based descriptive study
- o Grade D- cross-sectional study, case series, case report

Reports that Synthesize or Reflect Upon Collections of Primary Reports

- o M = meta-analysis, systematic review, decision analysis, cost-effectiveness analysis
- o R = consensus statement, consensus report, narrative review
- o X = medical opinion

1c.23 Grade Assigned to the Recommendation: The grades assigned to the bodies of evidence are primarily category A and one category B. Bodies of evidence assigned category A include a rich body of evidence. Bodies of evidence assigned category B include random control trials with a limited body of evidence.

1c.24 Rationale for Using this Guideline Over Others:

Based on the NQF descriptions for rating the evidence, what was the developer's assessment of the quantity, quality, and consistency of the body of evidence?

1c.25 Quantity: [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? [Yes](#)

S.2 If yes, provide web page URL: <http://www.mncm.org/site/?page=resources&view=1>

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 numerator is the number of patients ages 5-50 who meet all components of the measure (see below). (MN Community Measurement stratifies data by age group: Children ages 5-17 and Adults ages 18-50).

a) Asthma well-controlled as demonstrated by the use of one of four validated asthma control tests that scores the patient as "in-control" or "well-controlled".

b) Patient is not at elevated risk of exacerbation as evidenced by patient reported emergency department visits and inpatient hospitalizations due to asthma in the past 12 months. The total number of emergency department visits and hospitalizations due to asthma must be less than 2.

c) Patient has been educated about his or her asthma and self-management of the condition with a written asthma management plan present (created or reviewed and revised within the measurement period) that contains information about the patient's triggers, the patients medication doses and effects of those medications, and what to do during an exacerbation.

2a1.2 Numerator Time Window *(The time period in which the target process, condition, event, or outcome is eligible for inclusion):* Measurement period is a fixed 12-month period. All components must be met within the measurement period to be considered in the numerator.

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 numerator is the number of patients ages 5-50 who meet all components of the measure (see below). (MN Community Measurement stratifies data by age group: Children ages 5-17 and Adults ages 18-50).

a) Asthma well-controlled and demonstrated by the use of one of the following tools (take the most recent asthma control tool available):

> Patient has an Asthma Control Test (ACT) score of 20 or above - only applicable for patients 12 and older

--OR--

> Patient has a Childhood Asthma Control Test (C-ACT) score of 20 or above - only applicable for patients 11 and younger

--OR--

> Patient has an Asthma Control Questionnaire (ACQ) score of 0.75 or lower - only applicable for patients 17 and older

--OR--

> Patient has an Asthma Therapy Assessment Questionnaire (ATAQ) score of 0 - only applicable for children and adolescents

Enter the date of the most recent asthma control test prior to the end of the measurement period (format mm/dd/yyyy). Enter the name of the asthma control test (format numeric code: 1=ACT, 2=C-ACT, 3=ACQ, 4=ATAQ). Enter the numeric score from the control test given on the date supplied and from the test referenced (format numeric).

If an asthma control test was never performed, leave the date and value fields blank. Tests from an outside referring provider or specialist are acceptable (not required) but only if documented in the primary clinic's record and is more recent than the primary clinic's test. Tests given must be appropriate for the age of the patient.

b) Patient is not at elevated risk of exacerbation as evidenced by the following:

> Patient reports values for both of the following:

i. Number of emergency department visits (not resulting in a hospitalization) due to asthma in the last 12 months

ii. Number of inpatient hospitalizations requiring an overnight stay due to asthma in the last 12 months

> The total number of emergency department visits and hospitalizations due to asthma must be less than 2.

Enter the date the patient reported emergency department visits and inpatient hospitalizations due to asthma (format mm/dd/yyyy). Enter the most recent, numeric value equal to the number of emergency department visits due to asthma that did not result in an overnight hospitalization as reported by the patient (format numeric). Enter the most recent, numeric value equal to the number of inpatient hospitalizations due to asthma as reported by the patient (format numeric).

Both numeric visit values should be gathered on the same date. Do not record urgent care visits. For self-reported visits within the past 12 months, the number reported by the patient should be supplied in reference to the date the patient is being asked.

c) Patient has been educated about his or her asthma and self-management of the condition and also has a written asthma management plan present (created or reviewed and revised within the measurement period). The written asthma management plan in the chart has the following documented:

> Plan contains information on medication doses and purposes of these medications

> Plan contains information on how to recognize and what to do during an exacerbation

> Plan contains information on the patient's triggers

Enter the date of the most recent written management plan either created or reviewed and revised (format mm/dd/yyyy). Provide a Yes or No value if the written management plan referenced on the date contains information about a patient's triggers (format numeric: Yes=1, No=0). Enter a Yes or No value if the written management plan referenced on the date contains information about a patient's medications, both doses and purposes of the medications (format numeric: Yes=1, No=0). Enter a Yes or No value if the written management plan referenced on the date contains information for the patient about what to do during an exacerbation (format numeric: Yes=1, No=0).

The written asthma management plan should be the most recent available. Written asthma management plans from an outside referring provider or specialist is acceptable (not required) but only if documented in the primary clinic's record and is more recent than the primary clinic's plan. Information about triggers must be specific to the patient's triggers and not generic information about triggers.

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

Patients ages 5 to 50 with asthma who have at least two visits for this diagnosis in the last 24 months (established patient) and who have had at least one visit in the last 12 months.

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

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

Patients must be seen at least two times for asthma (face-to-face with a provider) in the last 24 months and patients must be seen at last one time in the last 12 months. Medical groups perform the visit count and exclusions prior to file creation (excluded patients are not submitted in the direct data submission file). MN Community Measurement requires an upfront denominator certification process to ensure that the medical group is identifying the population correctly. Data collection or extraction cannot occur prior to MN Community Measurement approval of the denominator.

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):*

Patients must be age 5-50 (use patient date of birth, format mm/dd/yyyy)

Patients must be seen at least two times for asthma (face-to-face with a provider) in the last 24 months and patients must be seen at last one time in the last 12 months.

Asthma is defined as any one of the following ICD-9 codes, in any position, not just primary:

Extrinsic asthma: 493.00, 493.01, 493.02

Intrinsic asthma: 493.10, 493.11, 493.12

Other forms of asthma: 493.80, 493.81, 493.82

Asthma, unspecified: 493.90, 493.91, 493.92

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

Valid exclusions include patients who only had one visit to the clinic for asthma during the last two years, patients who are nursing home residents, in hospice, or have died, or patients who have COPD, emphysema, cystic fibrosis, or acute respiratory failure.

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):*

- > Patient was a permanent nursing home resident during the measurement period
- > Patient was in hospice at any time during the measurement period
- > Patient died prior to the end of the measurement period
- > Documentation that the diagnosis was coded in error
- > Patient has COPD (codes 491.2, 493.2X, 496, 506.4)
- > Patient has emphysema (codes 492, 506.4, 518.1, 518.2)
- > Patient has cystic fibrosis (code 277.0)
- > Patient has acute respiratory failure (code 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):*

-Patient age group (children ages 5-17 and adults ages 18-50)

-Patient gender

-Patient zip code, primary residence (format text: XXXXX)

-Race and ethnicity code or codes (up to five) as defined in the Optimal Asthma Care Data Collection Guide 2011 (format numeric: see guide for codes)

-Country of origin as defined in the Optimal Asthma Care Data Collection Guide 2011 (format numeric: see guide for codes)
 -Primary language as defined in the Optimal Asthma Care Data Collection Guide 2011 (format numeric: see guide for codes)
 -Insurance coverage code as defined in the Optimal Asthma Care Data Collection Guide 2011 (format numeric: see guide for codes)

2a1.11 Risk Adjustment Type (*Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13*): Other 2a1.12 If "Other," please describe: Case-mix adjustment

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.*):

Risk adjustment for the Optimal Asthma Care measure is based on case mix (health plan product). Health plan product was selected because it can serve as a proxy for socioeconomic status if more specific variables are not reliably and consistently available. Socioeconomic status can be a variable in a patient's ability to comply with a treatment plan for achieving the intermediate outcomes that can postpone or prevent the long term complications of asthma.

The overall average state-wide distribution of patients across three major insurance types (Commercial, Medicare, and Minnesota Healthcare Programs plus Self-pay/Uninsured) is calculated and then each reporting site's patient distribution is adjusted to match the average mix. Rates are weighted based on the new distribution of patients and then rates are re-calculated.

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:

Attachment
 MNCM Case Mix Risk Adjustment Aug 2010 - Asthma.doc

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 is calculated by submitting a file of individual patient values through a HIPAA secure data portal. Programming within the data portal determines if each patient is a numerator case and then a rate is calculated for each clinic site.

If any component of the numerator is non-compliant for any one of the three components, then the patient is numerator non-compliant for the composite all-or-none Optimal Asthma Care measure.

Numerator logic is as follows:

1) Control test logic questions:

- A) Did the patient have an asthma control test within the measurement period?
 - > If yes, move to next question.
 - > If no, patient is not numerator compliant for this component.
- B) Is the asthma control test tool used acceptable for the patient's age?
 - > If yes, move to the next question.
 - > If no, patient is not numerator compliant for this component.
- C) Is the value of the control test equivalent to "in control"?
 - > If yes, the patient is compliant for this component.
 - > If no, the patient is not numerator compliant for this component.

2) Risk of exacerbation numerator logic questions:
 A) Did the patient supply information about emergency department visits and inpatient hospitalizations in the last 12 months due to asthma within the measurement year?

- > If yes, move to next question.
 - > If no, the patient is not numerator compliant for this component.
- B) Add the values supplied for emergency department visits and inpatient hospitalizations due to asthma in the past 12 months. Is the number less than 2?
- > If yes, the patient is compliant for this component.
 - > If no, the patient is not numerator compliant for this component.

3) Education and written asthma management plan logic questions:
 A) Does the patient have a current (created or reviewed and revised) written asthma management plan in their chart?

- > If yes, move to the next question.
 - > If no, the patient is not numerator compliant for this component.
- B) Does the written plan contain information about the patient's triggers?
- > If yes, move to the next question.
 - > If no, the patient is not numerator compliant for this component.
- C) Does the written plan contain information about the patient's medication doses and purposes of those medications?
- > If yes, move to the next question.
 - > If no, the patient is not numerator compliant for this component.
- D) Does the written plan contain information about what to do during an exacerbation?
- > If yes, the patient is compliant for this component.
 - > If no, the patient is not numerator compliant for this component.

If the values for 1, 2, and 3 above are all compliant, the patient is then calculated as a numerator case for the Optimal Asthma Care measure.

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

Attachment
 Numerator_Logic_September12010.docx

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):

MN Community Measurement encourages total population submission but also accepts sample submissions. The following are instructions for obtaining a sample:

Below are the requirements for submitting a sample:

- >Each clinic must submit TWO samples – one for pediatric patients ages 5-17 (birthdate range includes MM/DD/YYYY to MM/DD/YYYY) and one for adult patients ages 18-50 (birthdate range includes MM/DD/YYYY to MM/DD/YYYY).
- >If a clinic has less than 60 patients in either the pediatric or the adult population for the measure, submit ALL patients (e.g., if there are a total of 59 children ages 17 and under in the population for the measure, submit all 59 patients).
- >If a clinic has 60 or more patients for each sample, first consider submitting all patients, otherwise you may submit a sample. The minimum required sample is 60 patients per age group, per clinic site, per measure (e.g., if there are 79 eligible patients in the population, first consider submitting all 79 patients, otherwise submit a sample of at least 60). MN Community Measurement recommends sampling the required 60 and adding an additional oversample of 20 patients to submit a total of 80 patients for each age group for each clinic.

HOW TO DO SAMPLING FOR THE OPTIMAL ASTHMA CARE MEASURE

To generate your data for the asthma measure, you will need to generate lists of random samples by age group and clinic. Each clinic needs one randomly sampled list of pediatric asthma patients and one randomly selected list of adult asthma patients.

SAMPLE STEP 1: CREATE SEPARATE RANDOMLY SELECTED LISTS FOR EACH AGE GROUP

- a) First generate a list of ALL asthma patients ages 5-50 at a single clinic.
- b) Break the list into two age groups:
 - >>Ages 5-17 in one list (birthdate range includes MM/DD/YYYY to MM/DD/YYYY)
 - >>Ages 18-50 in another list (birthdate range includes MM/DD/YYYY to MM/DD/YYYY)
- c) Use one of the sampling methods for each age group (sampling methods are listed on the next page) to identify the patients in your denominator. This becomes the list of patients that you will need to look up the data for.
- d) Repeat step "C" for the other age group.
- e) Repeat steps a-d above for all of your clinics.

SAMPLE STEP 2: COMBINE YOUR PEDIATRIC AND ADULT SAMPLE BEFORE DATA SUBMISSION

After you generate all of your samples for all of your age groups for all clinic locations, you will need to combine the samples into one data file for your entire medical group. This one file will be the file you upload to the MN Community Measurement data portal.

NOTE: You will need to supply MNMCM with patient counts BY AGE GROUP and BY CLINIC when you go to upload the data.

Example: You will be submitting only one file for your entire medical group and all the clinic sites within your organization. For example, if you have 4 family practice clinics, your final data file should have the following:

- >Clinic Site 1 – 60 patients ages 5-17
- >Clinic Site 1 – 60 patients ages 18-50
- >Clinic Site 2 – 60 patients ages 5-17
- >Clinic Site 2 – 60 patients ages 18-50
- >Clinic Site 3 – 60 patients ages 5-17
- >Clinic Site 3 – 60 patients ages 18-50
- >Clinic Site 4 – 60 patients ages 5-17
- >Clinic Site 4 – 60 patients ages 18-50

Sampling Methods

Method A: Excel Random Number Generator

For patient lists generated in Excel, use the "RAND" function to assign a random number to each record (please also see Microsoft Excel Help, topic RAND for more information):

1. Separate your list of patients into the two age groups and complete steps 2-10 for both your pediatric patients AND your adult patients
2. Insert a blank column on the leftmost side of the spreadsheet
3. Label new column "RAND"
4. Place cursor in the first blank cell (A2) and type =RAND()
5. Press enter (a number like 0.793958 will appear)
6. Place the cursor back into this cell; resting over the corner to have the pointer change to a black cross, double click or drag the formula down to the last row/patient
7. Highlight the whole column and click Edit, Copy, Paste Special = Values to freeze the random number (otherwise it will change with every click on the spreadsheet)
8. Sort entire patient population by this new random number
9. Work down the list row by row, starting with row 1 until the number of records in the sample is met for submission (at least 60 patients per clinic, plus at least 20 oversamples = 80 patients per clinic, per age group)
10. If a patient meets one of the accepted exclusions, keep working down the list and use oversamples that are after the number of records in the sample. For example, if 100 records will be submitted and 2 exclusions were found, include patient rows 101 and 102 to replace the excluded records.

Method B: Paper List Sample Selection

For paper-generated lists, complete the following steps:

1. Separate the list of patients into two age groups – do steps 2 and 3 below for both your pediatric patients AND your adult patients
2. Start with a list that has patients sorted by some unique patient related variable.
 - a. Identifying number like a medical record number [MRN] or chart number is ideal.
 - b. Sorting alphabetically is the least desirable in terms of randomness, however, this may be used when there is no other alternative.
3. Select every Nth patient for the number of patients that will be reported (at least 60 patients, plus at least 20 oversamples = 80 patients per clinic, per age group).
 - a. N should equal the clinic site's total population divided by the number of patients that will be submitted (if needed, round down to the nearest whole number). Review ALL randomly selected records and oversamples to exhaust the entire patient list. Highlight or mark every Nth patient on the list. This is the sample.
 - b. Example: If a clinic site has 800 asthma patients and 80 patients will be submitted, divide 800/80 = 10. Select every 10th patient on the list.

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

Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry, Paper Records

2a1.26 **Data Source/Data Collection Instrument** (Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.): Medical groups can extract information from an electronic health record and submit that data electronically. Other medical groups can create an excel spreadsheet (templates are available from MN Community Measurement) and using the practice management system can appropriately sample their patients, then conduct a chart review by completing the columns in the excel spreadsheet. All data must be uploaded in a .csv file to the MN Community Measurement's secure data portal. The data portal is HIPAA secure and provides encryption during file transfer.

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

<http://www.mncm.org/site/?page=resources&view=1>

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

URL

<http://www.mncm.org/site/?page=resources&view=1>

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

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):

2011 Report Year (Dates of Service 7/1/2010-6/30/2011)

Age Groups: Adults (ages 18-50) and Children (ages 5-17)

Physician clinics in the state of Minnesota with the following specialties submitted data: Allergy/Immunology, Family Medicine, Internal Medicine, Pediatric/Adolescent Medicine, and Pulmonary Medicine. Clinic size ranged from small one-physician practices to large multi-specialty systems. Clinics were located across the state, including urban, suburban and rural locations.

Of the 188 eligible Minnesota medical groups, 134 (71.3%) submitted data for the Optimal Asthma Care measure. The 134 medical groups represented 608 clinics. These clinics submitted the following number of patients (by age group):

Adults:

49,183 total eligible patients with asthma
 45,292 patients submitted for rate calculation (92.1%)

Children:
 35,560 total eligible patients with asthma
 28,210 patients submitted for rate calculation (79.3%)

Percentage of clinics that submitted total population data:
 93% (the remaining clinics submitted a random sample)

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

For data reported in 2011 (dates of service 7/1/2010-6/31/2011), 134 medical groups representing 608 clinics in Minnesota and neighboring border states submitted data to MN Community Measurement (MNCM) for rate calculation. These clinics represented 49,183 adults with asthma and 35,560 children with asthma. Clinics submitted 45,292 adults (92.1%) and 28,210 children (79.3%) for rate calculation. Of the clinics submitting data, 93% submitted total population, and the remaining submitted a random sample of at least 60 patients per clinic site, per age group. Reasons for sampling include clinics with paper charts or clinics with an EMR currently without the capability or resources to design reports to query all needed elements from their EMR system. Aside from large sample size, other components that contribute to the reliability (consistency) include the following:

- * Detailed data specifications and instructions for medical groups at <http://www.mncm.org/site/?page=resources>
- * Denominator certification process; all clinics must have their methods for identifying the population approved prior to any data collection.
- * Readily available support for questions, direct phone and email link to MNCM staff for assistance
- * Auto portal field warnings and errors that occurs during file upload
- * Numerator compliance is calculated by portal programming; medical groups are not determining their own numerator cases nor calculating their own outcome rates
- * MNCM staff conduct manual quality checks of the data files and preliminary results to identify discrepancies and errors and to compare rates and populations to previous years.
- * Experienced and trained auditors conduct onsite medical record audits; auditors must pass an Inter-rater reliability (IRR) exam at 90% or higher before conducting any audits
- * MNCM conducted audits on 100% of the medical groups that submitted data
- * MNCM uses NCOA's 8 and 30 audit process and requires a 90% accuracy rate

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

Data submitted to the MN Community Measurement data portal for rate calculation is consistent and accurately reflects the data in the patient's medical record. Through the upfront denominator certification process we ensure that all groups are identifying the population in the same way during the same time frame. Groups that cannot comply with the measurement specifications are not allowed to submit data but encouraged to consider future submission when able to comply. Post submission validation processes ensure that the data submitted is that which is reflected in the patient's medical record.

2011 Validation Audit Results:

MN Community Measurement staff completed quality checks on all 134 (100%) medical groups that submitted data. Quality checks included data file checks and review of their preliminary results. MN Community Measurement reviewed medical groups that had 0% on any of the component rates to be sure corresponding date fields were populated in order for the portal to correctly calculate scores. Two groups had mistakenly omitted dates in the risk date field and made corrections in the data file. Other quality checks included: verify dates of birth range includes patients age 5 and 50, Race/Ethnicity data was completed correctly, Insurance codes were completed correctly, Clinics did not report "0" patients when there would be a number of patients expected to be reported. MN Community Measurement also conducted onsite medical record audits for all 134 (100%) medical groups submitting data, 18 groups (13%) had data errors that required them to make corrections and resubmit their data. All 18 groups resubmitted and passed subsequent quality checks and audits.

Types of Errors Found in Validation Audits:

Patient-Reported ER/Hospitalization Visits: Clinics used encounter data and not "patient reported" data, Missed data that the clinic could have reported but didn't inadvertently, auditor could not verify data

Asthma Action Plan: Trigger data was reported by the clinic, but could not be verified by the auditor, Data was collected from provider notes and not from the written plan, Data could not be verified by the auditor, Missed data that the clinic could have reported but didn't inadvertently

Asthma Control Test: Most recent test wasn't reported, auditor could not verify data, missed data that the clinic could have reported but didn't inadvertently.

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 three components for the Optimal Asthma Care measure draw heavily on the recommendations of three sets of clinical guidelines: The Institute for Clinical Systems Improvement (ICSI) Asthma Guideline updated in 2008 and again in June 2010, the National Heart, Lung, and Blood Institute EPR-3 2007 (NHLBI), and the Global Initiative for Asthma (GINA) updated in 2008 and again in 2009 and 2011.

Asthma control is stated by clinical guidelines to be the primary goal of asthma therapy. The use of asthma control identifies a patient's level of impairment due their condition. The assessment of risk is included in the guidelines as an important complimenting assessment of overall asthma control based on past experience. It is considered a separate determining point from the level of impairment due to asthma. The use of education and self-management is noted by guidelines as a key management tool to promote asthma control for patients.

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*):

2011 Report Year (Dates of Service 7/1/2010-6/30/2011)

Age Groups: Adults (ages 18-50) and Children (ages 5-17)

Physician clinics in the state of Minnesota with the following specialties submitted data: Allergy/Immunology, Family Medicine, Internal Medicine, Pediatric/Adolescent Medicine, and Pulmonary Medicine. Clinic size ranged from small one-physician practices to large multi-specialty systems. Clinics were located across the state, including urban, suburban and rural locations.

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Children:

35,560 total eligible patients with asthma

28,210 patients submitted for rate calculation (79.3%)

Percentage of clinics that submitted total population data:

93% (the remaining clinics submitted a random sample)

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

Potential new measures are researched for impact and opportunity and presented to our Measurement and Reporting Committee prior to development. We convene expert panels for their input and consensus (face and content validity) and test the data collection/ submission processes prior to wide scale implementation. There is consensus among our expert workgroup that the target components reflect a quality of care that will benefit patients in terms of reducing the risk of asthma exacerbation. All measures used, changed and developed by MN Community Measurement go through formal approval processes with our Measurement and Reporting Committee (has representatives from providers, health plans, data experts and consumers) and our Board of Directors.

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*):

MN Community Measurement believes that patients with asthma will benefit from the increased focus on measurement, achievement of targets and transparency of information via public reporting. Currently 15.7% of adult patients with asthma and

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24.3% pediatric patients with asthma are achieving all three targets. This equates to 7,178 adults and 6,077 children who have reduced their risk of asthma exacerbation. While some clinics have achieved a 100% optimal care rate*, more than 70% of clinics are achieving optimal care rates that are less than 10%, demonstrating an opportunity for improvement (e.g., implementation of an asthma control tool, assessing risk of asthma exacerbation, or documentation of a written asthma action plan provided to the patient).

The comparative average for all providers is based on a large number of patients used in calculating that average (n = 45,292 adults and n = 28,210 children).

*Less than 1% of clinics that submitted data achieved a 100% optimal care rate. These clinics were not reportable according to MN Community Measurement policy (clinic must have at least 30 patients reported).

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*):

2011 Report Year (Dates of Service 7/1/2010-6/30/2011)

Age Groups: Adults (ages 18-50) and Children (ages 5-17)

Physician clinics in the state of Minnesota with the following specialties submitted data: Allergy/Immunology, Family Medicine, Internal Medicine, Pediatric/Adolescent Medicine, and Pulmonary Medicine. Clinic size ranged from small one-physician practices to large multi-specialty systems. Clinics were located across the state, including urban, suburban and rural locations.

Of the 188 eligible Minnesota medical groups, 134 (71.3%) submitted data for the Optimal Asthma Care measure. The 134 medical groups represented 608 clinics. These clinics submitted the following number of patients (by age group):

Adults:

49,183 total eligible patients with asthma

45,292 patients submitted for rate calculation (92.1%)

Children:

35,560 total eligible patients with asthma

28,210 patients submitted for rate calculation (79.3%)

Percentage of clinics that submitted total population data:

93% (the remaining clinics submitted a random sample)

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

Allowable exclusions include (patient preference is not an allowable exclusion):

Patient died during the measurement period

Patient was in hospice during the measurement period

Patient was permanent resident of nursing home during the measurement period

Diagnosis was coded in error

Patient had another diagnosis (COPD, Emphysema, Cystic Fibrosis, Acute Respiratory Failure)

Clinics were asked to describe how they would handle exclusions during the denominator certification process. Some clinics were able to automatically remove patients as part of their query for eligible patients (e.g., deceased patients or patients with an allowable exclusion diagnosis). Clinics would also manually exclude patients during data abstraction.

We requested clinics to track the individual patients that they excluded and submit the reasons for exclusion to MN Community Measurement. MN Community Measurement staff reviewed files for questionable exclusions and also conducted onsite record validation.

2b3.3 Results *(Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):*
 No issues of inappropriate use of exclusions were found, and the number of patients who were excluded from this measure was minimal.

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):*

2011 Report Year (Dates of Service 7/1/2010-6/30/2011)

Age Groups: Adults (ages 18-50) and Children (ages 5-17)

Physician clinics in the state of Minnesota with the following specialties submitted data: Allergy/Immunology, Family Medicine, Internal Medicine, Pediatric/Adolescent Medicine, and Pulmonary Medicine. Clinic size ranged from small one-physician practices to large multi-specialty systems. Clinics were located across the state, including urban, suburban and rural locations.

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45,292 patients submitted for rate calculation (92.1%)

Children:

35,560 total eligible patients with asthma

28,210 patients submitted for rate calculation (79.3%)

Percentage of clinics that submitted total population data:

93% (the remaining clinics submitted a random sample)

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

Differences by primary payer type are anticipated. Final results are expected mid-year 2012. See section 2a1.14 for detailed information.

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):*

Differences by primary payer type are anticipated. Final results are expected mid-year 2012. See section 2a1.14 for detailed information.

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

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):*

2011 Report Year (Dates of Service 7/1/2010-6/30/2011)

Age Groups: Adults (ages 18-50) and Children (ages 5-17)

Physician clinics in the state of Minnesota with the following specialties submitted data: Allergy/Immunology, Family Medicine, Internal Medicine, Pediatric/Adolescent Medicine, and Pulmonary Medicine. Clinic size ranged from small one-physician practices to large multi-specialty systems. Clinics were located across the state, including urban, suburban and rural locations.

Of the 188 eligible Minnesota medical groups, 134 (71.3%) submitted data for the Optimal Asthma Care measure. The 134 medical groups represented 608 clinics. These clinics submitted the following number of patients (by age group):

Adults:

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 45,292 patients submitted for rate calculation (92.1%)

Children:

35,560 total eligible patients with asthma
 28,210 patients submitted for rate calculation (79.3%)

Percentage of clinics that submitted total population data:

93% (the remaining clinics submitted a random sample)

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

Outcome results are displayed on the public website MN HealthScores www.mnhealthscores.org and can be ranked in order of performance or by the name of the clinic. Additionally, results for up to three clinics can be compared and used by the consumer to choose a clinic with excellent outcome rates or by a provider to better understand successes or opportunities for improvement. Providers have additional analytical capabilities within the HIPAA secure data portal for understanding the results of their own data. On the public website, current weighted rates are available and compared to the state average. Upper and lower confidence limits are calculated for each clinic site based on the eligible population and the number of patients submitted. In our annual Health Care Quality Report (to be available on MN Community Measurement's corporate site www.mncm.org) clinics with high performers will be highlighted. High performers are defined as clinics with rates and confidence intervals fully above the overall clinic average.

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):*

Statewide Average Optimal Asthma Care Rates

2011 Report Year (Dates of Service 7/1/2010-6/30/2011)

Age Groups: Adults (ages 18-50) and Children (ages 5-17)

Below are results from data submitted by clinics in 2011, stratified by age group (adults and children). The overall statewide average rates are the percentages of patients who met all three component targets in the composite measure and considered optimally managed. These rates are weighted averages of the total population of patients for clinics submitting data. There is wide variability in the low and high scores for both age groups (0% to 100%). More than 70% of clinics performed between 0% and 9.9%, indicating future improvement opportunities (e.g., implementation of an asthma control tool, assessing risk of asthma exacerbation, or documentation of a written asthma action plan provided to the patient).

Adult Statewide Average Rate: 15.7%

Number of eligible patients = 49,183

Number of patients submitted for rate calculation = 45,292 (some clinics submitted a sample of data, therefore the total number of eligible patients is higher)

Mean = 15.7%

Median = 0.0%

Standard Deviation = 0.17

Min = 0%

Max = 100%

Adult Rate Ranges, Percentage of Clinics:

0%-9.9% = 74.01%

10%-19.9% = 6.25%

20%-29.9% = 5.43%

30%-39.9% = 4.93%

40%-49.9% = 4.28%

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50%-59.9% = 3.95%
60%-69.9% = 0.49%
70%-79.9% = 0.33%
80%-89.9% = 0.16%
90%-99.9% = 0.0%
100% = 0.16%

Child Statewide Average Rate: 24.3%

Number of eligible patients = 35,560

Number of patients submitted for rate calculation = 28,210 (some clinics submitted a sample of data, therefore the total number of eligible patients is higher)

Mean = 24.3%

Median = 0.5%

Standard Deviation = 0.19

Min = 0%

Max = 100%

Child Rate Ranges, Percentage of Clinics

0%-9.9% = 72.37%

10%-19.9% = 5.43%

20%-29.9% = 5.10%

30%-39.9% = 5.26%

40%-49.9% = 5.10%

50%-59.9% = 3.13%

60%-69.9% = 1.81%

70%-79.9% = 0.99%

80%-89.9% = 0.33%

90%-99.9% = 0.16%

100% = 0.33%

Percentage of clinics that submitted total population data:

93% (the remaining clinics submitted a random sample)

Component Rates (by age group):

Adults:

Well Controlled = 25%

Low Risk of Exacerbation = 34%

Education (Written Plan) = 27%

Children:

Well Controlled = 37%

Low Risk of Exacerbation = 46%

Education = 44%

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):*

Multiple data sources are not used. The data source for this information is the patient's medical record. No other sources of information are applicable (e.g., this is not a claims based measure as asthma control test scores, patient-reported risk of asthma exacerbation, and documentation of a written asthma action plan are needed). Information is obtained either from a query of the electronic medical record or via chart abstraction. If data is stored in a registry, the registry must include all eligible patients and must match the source information (the patient's medical record).

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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*): Stratification by payer type can serve as a proxy for socioeconomic status. The data is stratified by public (MN Health Care Programs- Prepaid Medical Assistance including dual eligibles, MinnesotaCare, and General Assistance Medical Care) and private purchasers for the 2011 Health Care Disparities Report. A PDF version of the report will be posted on MN Community Measurement's corporate Web site www.mncm.org by April 2012.

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

Future direct data submissions will include fields for gender, zip code, race/ethnicity, country of origin and primary language and will allow further stratification of the results.

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, Payment Program, 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.*]

The optimal asthma care measure rates are publicly reported by MN Community Measurement on a consumer website, MN HealthScores, at www.mnhealthscores.org.

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: MN Community Measurement is a collaborative effort in our community among those who believe that you cannot improve what you don't measure. Our collaborative includes medical groups, clinics, physicians, hospitals, health plans, employers, consumer representatives and quality improvement organizations. These stakeholders support the notion that greater transparency in our health care system will lead to better health outcomes for the people of Minnesota. MN Community Measurement's mission to accelerate the improvement of health by publicly reporting health care information is having a positive effect on the health care provided in Minnesota. For more information please visit our corporate website at www.mncm.org.

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): Asthma results are used by one Minnesota health plan, within their contractual agreements with providers, and asthma results are also a part of the Minnesota Department of Health's Statewide Quality Reporting & Measurement System, which required data submission by all applicable physician clinics in Minnesota.

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].

Asthma results are used by one Minnesota health plan, within their contractual agreements with providers, and asthma results are also a part of the Minnesota Department of Health's Statewide Quality Reporting & Measurement System, which required data submission by all applicable physician clinics in Minnesota.

Use of data for quality improvement efforts is encouraged and results reporting within the data portal assist groups in understanding potential opportunity within each of the components by displaying component results as compared to the overall rates. There is a compare function built into the public reporting website so that consumers (or providers) can pick clinics to be compared; additionally medical groups have access to their own detailed patient level results with numerator calculation within MN Community Measurement's HIPAA secure data portal. Groups can use this information to better understand their asthma population and identify subsets of patients who could improve their asthma control.

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:
 Use of data for quality improvement efforts is encouraged and results reporting within the data portal assist groups in understanding potential opportunity within each of the components by displaying component results as compared to the overall rates. There is a compare function built into the public reporting website so that consumers (or providers) can pick clinics to be compared; additionally medical groups have access to their own detailed patient level results with numerator calculation within MN Community Measurement's HIPAA secure data portal. Groups can use this information to better understand their asthma population and identify subsets of patients who could improve their asthma control.

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 in electronic health records (EHRs)

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

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

4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results:
 MN Community Measurement has modeled the direct data submission process to minimize inaccuracies, errors, and unintended consequences. All groups participating sign a terms of use agreement that delineates the group's responsibilities for submission of data and consequences for not participating in good faith. Additionally, all groups sign a Business Associate Agreement that outlines the use of the data.

The denominator certification process prior to any data collection ensures that groups are following the specifications and correctly identifying their population and serves as a point of correction prior to the expenditure of resources for data collection. Groups provide documentation of cases that are excluded and this is reviewed by MN Community Measurement staff prior to approval of the data submission. Extensive audit processes also support the data's accuracy. After data submission, onsite validation audits are conducted comparing the submission to the patient's medical record using NCOA's 8 and 30 rule for audit requiring a 90% accuracy rate. Audits are conducted for the all clinic locations during their first data submission.

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

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

4d.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues (*e.g., fees for use of proprietary measures*):

1. Specifications- Detailed specifications with instructions on how to handle most data collection situations has been valuable to medical groups and provides increased data accuracy. MN Community Measurement convened a technical workgroup to discuss enhancements for the next version of the data collection guide.
2. Audit- Audit methods have ensured the accuracy of our data, thus, clinics can be compared successfully because everyone pulls data the same way and are subject to the same rules.
3. Confidentiality- MN Community Measurement only receives the patient level information needed to calculate the rates, determine eligibility for inclusion in the measure and support the administration of pay for performance programs. The PHI submitted is minimal and the data is protected by 1) password protection with password only available to the medical group submitting data, 2) file upload process is encrypted as data is transferred and 3) data is stored on a separate secure server and meets all HIPAA protection rules.
4. Electronic Medical Record- It is easier for groups that have an electronic medical record to submit their full population of patients, however groups with paper chart systems can successfully submit a sample if necessary.
5. Data Collection Burden - The submission timeframe is a mid-year cycle (July 1 – June 30) versus a calendar year cycle (January – December). This was planned to reduce data collection burden during the first part of the year. Most groups were able to meet the submission deadline (6 weeks after the end of the measurement period), however MN Community Measurement allowed other groups to submit data after the submission deadline since it was the first year the data was reported.
6. State Requirements & Health Plans - State mandated reporting and pay for performance programs impacts the number of groups that submit data.

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:

- 0001 : Asthma assessment
- 0025 : Management plan for people with asthma
- 0036 : Use of appropriate medications for people with asthma
- 0047 : Asthma: Pharmacologic Therapy for Persistent Asthma
- 0143 : CAC-1: Relievers for Inpatient Asthma
- 0144 : CAC-2 Systemic corticosteroids for Inpatient Asthma
- 0283 : Adult asthma (PQI 15)
- 0338 : CAC-3: Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver
- 0548 : Suboptimal Asthma Control (SAC) and Absence of Controller Therapy (ACT)
- 0620 : Asthma - Short-Acting Beta Agonist Inhaler for Rescue Therapy

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? No

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

This measure is not similar to current NQF-endorsed asthma measures. The current measures of asthma all assess either processes of care or population asthma morbidity. The Optimal Asthma Care measure is an outcome measure that provides rates for a range of components that equate to optimal management of the condition: control, risk, and education using a written asthma management plan. MN Community Measurement aligns with the HEDIS denominator definition.

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*):

N/A - This measure is not similar to current NQF-endorsed asthma measures. The current measures of asthma all assess either processes of care or population asthma morbidity. The Optimal Asthma Care measure is an outcome measure that provides rates for a range of components that equate to optimal management of the condition: control, risk, and education using a written asthma management plan. MN Community Measurement aligns with the HEDIS denominator definition.

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner): MN Community Measurement, 3433 Broadway Street NE, Suite 455, Minneapolis, Minnesota, 55413

Co.2 Point of Contact: Anne, Snowden, MPH, CPHQ, snowden@mncm.org, 612-454-4811-

Co.3 Measure Developer if different from Measure Steward: MN Community Measurement, 3433 Broadway Street NE, Suite 455, Minneapolis, Minnesota, 55413

Co.4 Point of Contact: Anne, Snowden, MPH, CPHQ, snowden@mncm.org, 612-454-4811-

Co.5 Submitter: Sandy, Larsen, larsen@mncm.org, 612-454-4818-, MN Community Measurement

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

Co.7 Public Contact: [Anne, Snowden, MPH, CPHQ, snowden@mncm.org, 612-454-4811-](#), MN Community Measurement

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 following members served an advisory role in the development of the Optimal Asthma Care measure:

- [Dory Baker, RN, CNP, AE-C \(Children's Hospital & Clinics\)](#)
- [Kris Benson, MD, Pediatrician \(Park Nicollet\)](#)
- [Cara Broich, Quality Improvement Manager \(Medica\)](#)
- [Angie Carlson, PharmD, PhD \(Data Intelligence Consultants\)](#)
- [Erica Fishman, Asthma Program Coordinator \(MN Department of Health\)](#)
- [Jan Hansen, Quality Improvement Consultant \(Family Health Services MN\)](#)
- [Ken Joslyn, MD, Family Practice, Medical Director \(Medica\)](#)
- [Kara Larson, MD, Pediatrician \(Allina\)](#)
- [Kaiser Lim, MD, Allergist/Pulmonologist \(Mayo Clinic\)](#)
- [Matthew Monteiro, MD, Family Practice Physician \(Family Health Services MN\)](#)
- [Bill Nersesian, MD, CMO, Pediatrician \(Fairview Physician's Assoc.\)](#)
- [Randall Warren, MD, Pediatrician, Medical Director \(HealthPartners\)](#)

MN Community Measurement staff:

- [Diane Mayberry \(former Chief Operating Officer\)](#)
- [Brenda Paul \(Program Development Manager\)](#)

Ad.2 If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward: [N/A](#)

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? [Annually](#)
- Ad.6 When is the next scheduled review/update for this measure? [07, 2012](#)

Ad.7 Copyright statement: [\(c\) MN Community Measurement, 2012](#)

Ad.8 Disclaimers:

Ad.9 Additional Information/Comments:

Date of Submission (MM/DD/YY): [01/13/2012](#)



MN Community Measurement Methodology for Case Mix Risk Adjustment of Clinic Level Results Optimal Asthma Care Measure: Anticipated Risk Adjustment Method

Background and Evolution of Risk Adjustment:

MN Community Measurement has been publicly reporting unadjusted ambulatory outcome rates at the clinic site level for several years dating back to 2004. Currently, the lowest level of reporting is at the clinic site and we do not publicly report any practitioner level information. As our state begins moving towards utilizing cost and quality measures to demonstrate value and utilizing these measures for incentive based payment and tiering by health plans, we began to explore risk adjustment of measures used for these purposes.

Our subcommittee of the Board of Directors, the Measurement and Reporting Committee (MARC) has reviewed several methods for risk adjusting these measures. Part of their discussion included the use of the risk adjusted measures overall, especially for public reporting for consumers on our MN HealthScores website. The group agreed that risk adjustment would be more beneficial for tiering and incentive based programs and that there was value in the unadjusted clinic site level rate for consumers for the following reasons: rates reflect actual performance, confusion for consumers in terms of explaining risk adjustment or displaying two rates (adjusted and unadjusted), or creating a mindset that it is acceptable for patients in public programs to have different treatment standards than those with commercial insurance.

There are no current plans to provide risk adjusted data on our consumer facing website; however we will provide both adjusted and unadjusted clinic site level rates on our corporate website (pdf format).

Case Mix Risk Adjustment:

Risk adjustments for the Optimal Asthma Care measure will be based on case mix (health plan product). Health plan product was selected because it can serve as a proxy for socioeconomic status, if more specific variables are not available. Socioeconomic status can be a variable in a patient's ability to comply with a treatment plan for achieving the intermediate outcomes that can postpone or prevent the long term complications of diabetes or cardiovascular disease.

The overall average state-wide distribution of patients across three major insurance types (Commercial, Medicare and MN Healthcare Programs plus Self-pay/Uninsured) is calculated and then each reporting site's patient distribution is adjusted to match the average mix. Rates are re-weighted based on the new distribution of patients and then rates are re-calculated.

Example of Case Mix Risk Adjustment Methodology: (Fictitious values)

Step One: Unadjusted Rates and Patient Numbers According to Payer Types

Clinic 1	Commercial	MN Healthcare Programs plus Self-pay/Uninsured	Medicare	Total
# of patients	250	50	100	400
# of patients meeting measure	163	23	55	241
% meeting measure	65.2%	46.0%	55.0%	60.3%
% of patients in payer type	62.5%	12.5%	25.0%	100.0%

Step Two: Calculate the Statewide Average Payer Mix

Statewide Distribution	Commercial	MN Healthcare Programs plus Self-pay/Uninsured	Medicare	Total
% distribution of patients	55.0%	29.0%	16.0%	100.0%

Step Three: Adjust Rates to Statewide Average Payer Mix

Clinic 1	Commercial	MN Healthcare Programs plus Self-pay/Uninsured	Medicare	Total
Adjusted # of patients	220	116	64	400
Adjusted # of patients meeting measure	143	53	35	231
Adjusted % meeting measure	65.0%	45.7%	54.7%	57.8%

MN Community Measurement
Optimal Asthma Care Numerator Logic
August 30, 2010

I. Asthma control test logic questions:

- A) Did the patient have an asthma control test given?
 - > If yes, move to next question.
 - > If no, patient is not numerator compliant for this component.
- B) Was the asthma control test given during the measurement year?
 - > If yes, move to next question.
 - > If no, patient is not numerator compliant for this component.
- C) Is the asthma control test tool used acceptable for the patient's age?
 - > If yes, move to the next question.
 - > If no, patient is not numerator compliant for this component.
- D) Is the value of the control test equivalent to "in control"?
 - > **If yes, the patient is compliant for this component.**
 - > If no, the patient is not numerator compliant for this component.

II. Risk of exacerbation numerator logic questions:

- A) Did the patient supply information about emergency department visits?
 - > If yes, move to next question.
 - > If no, the patient is not numerator compliant for this component.
- B) Did the patient supply information about inpatient hospitalizations in the last 12 months due to asthma?
 - > If yes, move to next question.
 - > If no, the patient is not numerator compliant for this component.
- C) Were both values assessed within the measurement year?
 - > If yes, move to next question.
 - > If no, the patient is not numerator compliant for this component.
- D) Add the values supplied for emergency department visits and inpatient hospitalizations due to asthma in the past 12 months. Is the number less than 2?
 - > **If yes, the patient is compliant for this component.**
 - > If no, the patient is not numerator compliant for this component.

III. Education and written asthma management plan logic questions:

- A) Does the patient have a current (created or reviewed and revised) written asthma management plan in their chart?
 - > If yes, move to the next question.
 - > If no, the patient is not numerator compliant for this component.
- B) Was the written asthma management plan created, reviewed or revised within the measurement year?
 - > If yes, move to the next question.
 - > If no, the patient is not numerator compliant for this component.
- C) Does the written plan contain information about the patient's triggers?
 - > If yes, move to the next question.
 - > If no, the patient is not numerator compliant for this component.
- D) Does the written plan contain information about the patient's medication doses and purposes of those medications?
 - > If yes, move to the next question.
 - > If no, the patient is not numerator compliant for this component.
- E) Does the written plan contain information about what to do during an exacerbation?
 - > **If yes, the patient is compliant for this component.**
 - > If no, the patient is not numerator compliant for this component.

If the values for I, II, and III are all compliant, the patient is then calculated as a numerator case for the Optimal Asthma Care measure.