

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 #: 0338	NQF Project: Pulmonary Project
(for Endorsement Maintenance Review)	
Original Endorsement Date: May 15, 2008 Most Recent Endorsement Date: May 15, 2008 Last Updated Date: Oct 19, 2012	
BRIEF MEASURE INFORMATION	
De.1 Measure Title: CAC-3: Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver	
Co.1.1 Measure Steward: The Joint Commission	
De.2 Brief Description of Measure: This measure assesses the proportion of pediatric asthma patients discharged from an inpatient hospital stay with a Home Management Plan of Care (HMPC) document in place. This measure is one of a set of three nationally implemented measures that address children's asthma care (CAC-1: Relievers for Inpatient Asthma, and CAC-2: Systemic Corticosteroids for Inpatient Asthma) that are used in The Joint Commission's accreditation process.	
2a1.1 Numerator Statement: Pediatric asthma inpatients with documentation that they or their caregivers were given a written Home Management Plan of Care (HMPC) document that addresses all of the following: <ol style="list-style-type: none"> 1. Arrangements for follow-up care 2. Environmental control and control of other triggers 3. Method and timing of rescue actions 4. Use of controllers 5. Use of relievers 	
2a1.4 Denominator Statement: Pediatric asthma inpatients (age 2 years through 17 years) discharged with a principal diagnosis of asthma.	
2a1.8 Denominator Exclusions: Excluded Populations: <ul style="list-style-type: none"> • Patients with an age less than 2 years or 18 years or greater • Patients who have a Length of Stay greater than 120 days • Patients enrolled in clinical trials 	
1.1 Measure Type: Process 2a1. 25-26 Data Source: Electronic Health Records, Other, Paper Records 2a1.33 Level of Analysis: Facility, Other 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): Not applicable	

STAFF NOTES <i>(issues or questions regarding any criteria)</i>
Comments on Conditions for Consideration:
Is the measure untested? Yes <input type="radio"/> No <input type="radio"/> 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 <u>endorsed</u> or submitted measures (check 5.1): Other Criteria:
Staff Reviewer Name(s):

1. IMPACT, OPPORTUNITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT
<p>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.</p> <p>Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria. (evaluation criteria)</p>
1a. High Impact: H <input type="radio"/> M <input type="radio"/> L <input type="radio"/> I <input type="radio"/> NA <input type="radio"/> <i>(The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.)</i>
De.4 Subject/Topic Areas (Check all the areas that apply): Respiratory : Asthma De.5 Non-Condition Specific (Check all the areas that apply): Care Coordination
1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, A leading cause of morbidity/mortality
1a.2 If "Other," please describe:
1a.3 Summary of Evidence of High Impact (Provide epidemiologic or resource use data): <p>According to the 2006-2008 data from the Centers for Disease Control (CDC), 9.3% of the US population comprises children suffering from asthma (CDC Health Disparities and Inequalities Report, 2011). This number has increased from 2001-2003 statistics reporting an 8.5% asthma prevalence in the US (www.cdc.gov).</p> <p>Consequently, the US healthcare system is greatly impacted by the demand to service this growing population (Brown, et al, 2004). Additionally multiple studies have noted an increase in annual incidence of hospital admissions, and related expenses for asthmatic children. Overall rates of hospital admission were last noted in 2004 to be 27 admissions per 10,000 children for a total of 198,000 hospitalizations (Akinbami, 2006, and Mellon and Parasuraman, 2004).</p> <p>Historically asthma management was left up to the provider or provider services. It is now clear from multiple sources of evidence including the National Heart Lung and Blood Institute (NHLBI) Guidelines that actual self-management of asthma by the patient or caregiver leads to more positive outcomes. Appropriate self management is completely reliant upon patient education. Patient education is more effective when it aims at training self management skills that will alter behavior (Norris, et al., 2001). Asthma is the most common chronic disease in children and a major cause of morbidity and increased health care expenditures nationally (Adams, et al., 2001 and Brown et al, (2002)). Chronic asthma in children can account for an annual loss of more than 14 million school days per year, according to the</p>

Asthma and Allergy foundation, and has also been known to create more childhood hospitalizations than any other childhood disease in this decade (Asthma Facts and Figures).

NHLBI notes that review of asthma management by expert clinicians is necessary but not sufficient to improve outcomes. Active learning, participating and verbalization of understanding are all strategies that a healthcare organization must incorporate with parents or caregivers of asthmatic children in order for them to understand and make the appropriate changes that can impact the disease in the child in question. Education programs have been effective in improving lung function, feelings of self esteem, and consequently decreased missed days of school in children and adolescents (Phipatanakul, 2004). Furthermore, evidence of this transaction in a written action plan improves patient outcomes in asthma (Lefevre, et al., 2002).

Acute hospitalization follow up is imperative to a successful discharge from the hospital, providing the caretaker with the resource information needed to contact the follow up facility, MD office or clinic setting (Schatz, et al, 2009). A written plan of action that includes specific information as specified in the data element Home Management Plan of Care Document Addresses Arrangements for Follow Up Care ensures that caretakers are adequately informed to transition from one point of care to the next.

Environmental control consists of removal of asthma triggers from the environment. Multiple studies support the positive correlation of household maintenance factors such as control of cockroach dust, and the number of acute asthma attacks in asthmatic children (McConnell, et al, 2005 and Eggleston, et al., 2005). Evidence from Carter et al, (2001) supported by the National Institute of Health (NIH) grant found specifically that reduction in triggers such as household conditions i.e.: dust mites, cockroach, cats and presence of molds and fungus, resulted in a decrease in acute care visits and an overall positive outcome of children.

Rescue action education related to early recognition of symptoms and proper action to control incidence of asthma attacks is noted to have positive outcomes for asthmatic children (Ducharme and Bhogal, 2008). Symptom identification can be done with simple diagrams, may be color coded for non English speaking or low literacy caretakers (Jones et al, 2001). Treatment plans can then be gauged by success as to how long the child remains in the green, yellow or red zones. This measure does not designate specifics of a rescue action plan provided to the caretakers, since it is the intent of the measure that plans be tailored to the individual and the resources accessible.

It is noted in President Obama's Health Plan and Community Based Prevention statement that multiple supportive articles and randomized control trials indicate that inadequate control of asthma remains a healthcare problem today (Goodman, A., 2009). The importance of an asthma education document that focuses on medication management is critical to increase asthma symptom free days (Stanton and Dougherty, 2005). Inadequate control comprises asthma symptom days, use of asthma medications, missed school days, and misuse of health services (Lozano et al., 2003).

1a.4 Citations for Evidence of High Impact cited in 1a.3: American College of Chest Physicians (ACCP), 10th Annual ACCP Community Asthma and COPD Coalitions Symposium: A Physician's Perspective. Retrieved on November 28, 2011 from: http://www.chestnet.org/accp/perspective/10th_Asthma

Asthma Facts and Figures. Retrieved on November 28, 2011 from http://www.aafa.org/display.cfm?id=9&sub=42#_ftn20.

Adams, N.P., Lasserson, T.J., Cates C.J., and Jones P. (2010). Fluticasone versus beclomethasone or budesonide for chronic asthma in adults and children (Review). The Cochrane Collaboration. Retrieved from: <http://www.thecochranlibrary.com>.

Adams, R.J., Fuhlbrigge, A., Finkelstein, J.A., Lozano, P., Livingston J.M., Weiss, K.B., Weiss, S.T.(2001).

Use of Inhaled Anti-inflammatory Medication in Children with Asthma in Managed Care Settings. Archives of Pediatrics and Adolescent Medicine, 155,501-507.

Bhagal,S.K., Zemek, R.L., and Ducharme, F. (2009). Written action plans for asthma in children (Review), The Cochrane Collaboration. Issue 1.

Boluyt, N, Van der Lee, J. H., Moyer, V. A., Brand, P. L., and Offringa, M. (2007). State of the Evidence on Acute Asthma Management in Children: A Critical Appraisal of Systematic Reviews. Pediatrics 120; p1334-1343.

Brown, R., Bratton, S.L., Cabana, M.D., Kaciroti, N., and Clark, N. (2004). Physician Asthma Education Program Improves Outcomes for Children of Low-Income Families. CHEST; 126;2;369-374.

Brown, J.V., Bakerman, R., Celano, M.P., Demi, A.S. Kobrynski, L, and Wilson, S.R. (2002). Home-Based Asthma Education of Young Low-Income Children and their Families. Society of Pediatric Psychology, Journal of Pediatric Psychology; Vol 27, No. 8, p 677-688.

Carter, M.C., Perzanowski, M.S., Raymond, A., and Platts-Mills, T.A.E.(2001). Home Interventions in the Treatment of Asthma Among Inner-City Children. The Department of Family Medicine, Emory University, Atlanta and The Asthma and Allergic Disease Center University of Virginia, Charlottesville.

Center for Disease Control and Prevention: Morbidity and Mortality Weekly report. Supplement/ Vol 60, Jan 14, 2011, retrieved on October 26, 2011 from: <http://www.cdc.gov/mmwr/pdf/other/su6001.pdf>.

Ducharme, F.M., and Bhagal, S. (2008). The role of written action plans in childhood asthma. Current Opinion in Allergy and Clinical Immunology. Vol 8; 177-188.

Eggleston, P.A., Butz, A., Rand, C., Curtin-Brosnan, J, Kanchanaraksa, S, Swartz, L, Breysse, P, Buckley, T., Diette, G., Merriman, B., Krishnan, J. (2005). Home Environmental Intervention in Inner-City Asthma: A Randomized Controlled Clinical Trial. Ann Allergy Asthma Immunology; 95 p518-524.

Fuhlbrigge, A.L., Adams, R.J., Guilbert, T.W. Grant, E., Lozano, P., Janson, S.L., Martinez, F., Weiss, K.B., and Weiss, S.T. (2002). The Burden of Asthma in the United States : Level and Distribution Are Dependent on Interpretation of the National Asthma Education and Prevention Program Guidelines (NAEPP). American Journal of Respiratory and Critical Care Medicine. Vol 166, p 1044-1049.

Jones, J.A., Walhgren, D.R., Meltzer, S.B., Meltzer, E.O., Clark, N. M. Hovel, M. F.(2001). Increasing Asthma Knowledge and Changing Home Environments for Latino Families with Asthmatic Children. Patient Education and Counseling; 42, p 67-79.

Lefevre, F., Piper, M., Weiss, K., Mark, D., Clark, N., Aronson, N. (2002). Do Written action plans improve patient outcomes in asthma? An evidence based analysis. Family Practice; Vol 51, No. 10. Retrieved December 21, 2011 from <http://www.jfponline.com/pages.asp?AID=1308>

Lozano, P., Finkelstein, J.A., Hecht, J., Shulruff, R., Weiss, K.A. (2003). Asthma Medication Use and Disease Burden in Children in a Primary Care Population. Arch Pediatric Adolescent Medicine. Vol 157, p81-87.

McConnell, R., Milam, J., Richardson, J., Galvan, J., Jones, C., Thorne, P.S., and Berhane, K. (2005). Educational Intervention to Control Cockroach allergen Exposure in The homes of Hispanic Children in Los Angeles; Results of the La Casa Study.Clinical Exp Allergy; 35, p426-433.

McCormic, M.C., Kass, B., Elixhauser, A., Thompson, J., and Simpson, L. (2000). Annual Report on Access to and Utilization of Health Care for Children and Youth in the United States- 1999. Pediatrics, 105:1, 219-230.

National Center for Health Statistics, Center for Disease Control and Prevention, Asthma Prevalence, Health Care Use and Mortality, 2006-2008. Retrieved on October 27, 2011 from:
<http://www.cdc.gov/nchs/products/pub/pubd>, Accessed October 27, 2011.

National Heart Lung and Blood Institute (NHLBI). Guidelines for the Diagnosis and Management of Asthma (EPR-3). Retrieved on November 29, 2011 from: <http://www.nhlbi.nih.gov/guidelines/asthma/>.

Norris, S.L., Engelgau, M.M, and Narayan, K.M.V (2001). Effectiveness of Self-Management Training in Type 2 Diabetes: A systematic review of randomized controlled trials. Diabetes Care; Vol 124, No 3 Retrieved electronically on December 21, 2011 from doi: 10.2337/diacare.24.3.561

Phipatanakul, W. (2004). Effects of Educational Interventions for Self-Management of Asthma in Children and Adolescents: Systematic Review and Meta-Analysis. Pediatrics; 114; 530.

Schatz, M, Rachelefsky, G, Krishnan, J.A. (2009). Follow-up after Acute Asthma Episodes. What Improves Future Outcomes. Proc Am Thorac Soc; Vol 6 p 386-393.

Silber, J H., Rosenbaum, P R., Even-Shosha, O., Shabbout M., Zhang, X., Bradlow E T., and Marsh, R R. (2003). Length of Stay, Conditional Length of Stay, and Prolonged Stay in Pediatric Asthma. Health Services Research, 38: 3, 867-886.

Stanton, M.W., and Dougherty, D. (2005). Chronic Care for Low Income Children with Asthma: Strategies for Improvement. Research in Action. Agency for Healthcare Research and Quality, Advancing Excellence in Health Care, Issue 18.

Zemek, R.L., Bhogal, S.K., Ducharme, F. M. (2008). Systematic Review of Randomized Controlled Trials Examining Written Action Plans in Children: What is the Plan? (Reprinted) Arch Pediatr Adolesc Med/ vol 162 No 2. Retrieved on Sept 27, 2011 from www.archpediatrics.com

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:

Stanton and Dougherty (2005) noted in an article published by the Agency for healthcare Research and Quality (ARHQ) recommend active involvement of the patient in managing the disease via patient or family self-management in the case of children is critical to the success of controlling and increasing asthma treatment outcomes. In this same article, the importance of the five components of CAC -3 which address follow up, environmental control, rescue actions, and use of controller and reliever medications is noted. This plan of action is noted as the best strategy for improving the quality of care when discharging chronic asthmatic children.

Due to the high cost of healthcare for pediatric asthma patients, and the re- emerging cost of additional treatment due to inappropriate care, measures that track the process of using a home management plan of care and educating patients and family upon discharge with the recommended treatments will decrease the cost of asthma care overall.

This measure will assist health care organizations to track evidence of the process used to ensure that caregivers of children have the correct information at home that demonstrates arrangements for follow up care, environmental control to increase symptom free days, and methods and timing of rescue actions. The intention of this written HMPC is therefore to decrease the incidence of morbidity and mortality related to

asthma in children.

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.*]

According to the CDC, (2001 data) the death rate for children under 19 years of age with asthma has increased by nearly 80% since 1980 (Xu et al, 2007). A performance gap does indeed exist in current asthma management for adults and children (Stoloff, 2000). There are many opportunities for improvement in this disease population with increased use of written plan of action specifically focusing on follow up treatment plan, an environmental modification, and rescue action planning for asthmatic children. Stanton and Daugherty, (2005) discuss the advantage of nurse visitation interventions for at risk families and pediatrics, but conclude that improving the information systems to parents and self management supportive services are key to improving outcomes of asthmatic children. A major initiative of federal effort has been on measurement of hospital readmission, public reporting and discharge planning to reduce re admission rates throughout the nation (Jha, A.K., Orav E.J., and Epstein A.M., 2009).

Eggleston et al 2005 conducted a randomized controlled trial that reviewed the reduction of environmental triggers in the asthmatic child. The study examined home and air pollutant levels in the homes of a random sample of inner city children diagnosed with asthma. The test measured the efficacy of the intervention used to reduce triggers. The findings concurred that the treatment group who received the intervention to reduce triggers, had a decrease in reported daytime asthma symptoms and a decrease in reported cockroach and allergen levels. The control group had an increase in symptoms (p=0.4).

Physician communication has also been demonstrated as a performance gap by Stoloff (2000). His article reviewed 30 minute interviews of parents of asthmatic children and found an enormous gap in what the physicians documented as patient education, and what parents reported as being discussed by physicians. The only comparable topic was demonstration of the use of the inhaler. Stoloff (2000) further supports the lack of caregiver education was due to physicians not following recommended guidelines by NHLBI. Similarly Elizur et al., (2007) also finds that generally, primary care physicians often do not provide additional education; use of the action plan is omitted or not explained to caretakers. Retrospective chart review found no assistance with direction for frequent spirometry testing, and found directions to include only wording of "Go To Emergency Room".

Stoloff recommends repetitive education at multiple times, not just at the first diagnoses and certainly not during a time of crises. A home management plan of care, ensures that parents or caregivers have the resources they need to refer to when the a crises occurs outside of the hospital admission. Continued review of asthma management can be facilitated by continued review of the written plan of care post discharge in the home.

Bravata et al (2009) reviewed a number of studies looking at quality improvement strategies for children with asthma and identified that despite recommended guidelines of written plans of education, only 49% of their population reported having instructions upon discharge.

Voluntary data collection for accreditation purposes began for this measure in 2007. Based on 17 quarters of data reported to The Joint Commission, the aggregate performance rate for CAC-3 is 83.4% as of 2nd quarter 2011. Since data collection on this measure began nationally in the second quarter of 2007, aggregate performance has improved from 11.0 %. It should be noted that hospitals currently using this measure are self-selected, and therefore, presumably are more focused on improving the care delivered to

asthma patients than other hospitals might be. For this reason, The Joint Commission considers that the “true” performance rate on this measure for all hospitals treating children’s asthma is likely much lower.

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]

Bravata, D.M. Gienger, A.L., Holty, J.C., Sundaram, V., Khazeni, N, Wise, P.H., McDonald, K.M., Owens, D.K. (2009). Quality Improvement Strategies for Children with Asthma: A Systematic Review. Arch Pediatr Adolesc Med; 163 (6):572-581. Retrieved electronically on December 20, 2011 from <http://archpedi.ama-assn.org/cgi/content/full/163/6/572>

Elizur, A., Bacharier, L.B., and Strunk, R.C. (2007). Pediatric Asthma Admissions: Chronic Severity and Acute Exacerbations. Division of Allergy and Pulmonary Medicine, Department of Pediatrics. Journal of Asthma. 44: p. 285-289.

Jha, A.K., Orav, J.E., and Epstein, A.M. (2009). Public Reporting of Discharge Planning and Rates of Readmission. New England Journal of Medicine. 361, p 2637-2645.

Stanton, M.W. and Dougherty, D. (2005). Chronic Care for Low Income Children with Asthma: Strategies for Improvement. Research in Action Issue, Agency for Healthcare Research and Quality Advancing Excellence in Health Care; 18, No 05-0073. Retrieved on December 20, 2011 from www.ahrq.gov.

Stoloff, S (2000). Current Asthma Management: The Performance Gap and Economic Consequences. The American Journal of Managed Care. Vol. 6, No. 17. Sup. P.S918-928.

Tsai, C., Rowe, B.H., Sullivan A.F., Camargo, C.A. (2009). Factors associated with delayed use or nonuse of systemic corticosteroids in emergency department patients with acute asthma. Annals Allergy Asthma Immunology 2009;103:318-324.

Xu, J., Kochanek, K., Murphy, S., Tejada-Vera, B. (2007). National Vital Statistics Reports: Deaths: Final data for 2007. Retrieved November 17, 2011 from http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_19.pdf

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

Brown et al, (2002) found that a home management plan of care was crucial to the low income population, as they found that low income parents were less likely to be able to participate in clinical educational series or school –based asthma programs due to lack of transportation and lack of childcare. Both cultural and linguistic competence are identified as barriers to proper educational plans and success of follow up treatment for discharged asthmatic children in minority populations (Stanton and Daughterly, 2005). They determined that offering printed materials that minimize cultural barriers contributes to successful education and therefore positive outcomes.

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]

American Academy of Pediatrics (2011). Pediatric Clinical Practice Guidelines and Policies: A Compendium of Evidence-based Research for Pediatric Practice, 11th Edition. American Academy of Pediatrics, Elk Grove Village, IL.

Bravata, D.M. Gienger, A.L., Holty, J.C., Sundaram, V., Khazeni, N, Wise, P.H., McDonald, K.M., Owens, D.K. (2009). Quality Improvement Strategies for Children with Asthma: A Systematic Review. Arch Pediatr

Adolesc Med; 163 (6):572-581. Retrieved electronically on December 20, 2011 from <http://archpedi.ama-assn.org/cgi/content/full/163/6/572>

Brown, J.V., Bakerman, R., Celano, M.P., Demi, A.S. Kobrynski, L, and Wilson, S.R. (2002). Home-Based Asthma Education of Young Low-Income Children and their Families. Society of Pediatric Psychology, Journal of Pediatric Psychology; Vol 27, No. 8, p 677-688.

Center for Disease Control and Prevention: Morbidity and Mortality Weekly report. Supplement/ Vol 60, Jan 14, 2011, retrieved on October 26, 2011 from: <http://www.cdc.gov/mmwr/pdf/other/su6001.pdf>.

Chin, M H., Alexander-Young, M., Burnet, D. (2009). Health Care Quality-Improvement Approaches to Reducing Child Health Disparities. Pediatrics;124:S224-S236.

Elster, A., Jarosik, J., VanGeest J., Fleming M. (2003). Racial and Ethnic Disparities in Health Care for Adolescents, A Systematic Review of the Literature. Arch Pediatrics Adolescent Medicine; 157:867-874. Retrieved on September 27, 2011 from <http://archpedi.ama-assn.org/cgi/content/full/157/9/867>

Gottlieb, D J., O'Connor, G T., Beiser, A S.(1995). Poverty, Race, and Medication Use Are Correlates of Asthma Rates, A Small Area Analysis in Boston. CHEST Vol 108 no. 1: 28-35.

McDaniel, M., Paxson, C., and Waldfogel, J. (2006). Racial Disparities in Childhood Asthma in the United States: Evidence From the National Health Interview Survey, 1997-2003. Pediatrics 2006;117; e868.

Moorman, J E., Zahran, H., Truman, B I., Molla M T., (2011). Current Asthma Prevalence-United States, 2006-2008. Morbidity and Mortality Weekly Report January 14, 2011.

Smith, L A., Hatcher-Ross, J L., Wertheimer, R., Kahn, R S.(2005). Rethinking Race/Ethnicity, Income, and Childhood Asthma: Racial/Ethnic Disparities Concentrated Among the Very Poor. Public Health Reports; Mar-April, Vol 120, 109-115.

Stanton, M.W. and Dougherty, D. (2005). Chronic Care for Low Income Children with Asthma: Strategies for Improvement. Research in Action Issue, Agency for Healthcare Research and Quality Advancing Excellence in Health Care; 18, No 05-0073. Retrieved on December 20, 2011 from www.ahrq.gov.

Stoloff, S (2000). Current Asthma Management: The Performance Gap and Economic Consequences. The American Journal of Managed Care. Vol. 6, No. 17. Sup. P.S918-928.

Tsai, C., Rowe, B.H., Sullivan A.F., Camargo, C.A. (2009). Factors associated with delayed use or nonuse of systemic corticosteroids in emergency department patients with acute asthma. Annals Allergy Asthma Immunology 2009;103:318-324.

Xu, J., Kochanek, K., Murphy, S., Tejada-Vera, B. (2007). National Vital Statistics Reports: Deaths: Final data for 2007. Retrieved November 17, 2011 from http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_19.pdf

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 subcriterion 1c?
M-H	M-H	M-H	Yes <input type="radio"/>
L	M-H	M	Yes <input type="radio"/> IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No <input type="radio"/>
M-H	L	M-H	Yes <input type="radio"/> IF potential benefits to patients clearly outweigh potential harms: otherwise

			No <input type="radio"/>
L-M-H	L-M-H	L	No <input type="radio"/>
Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service			Does the measure pass subcriterion1c? Yes <input type="radio"/> IF rationale supports relationship
<p>1c.1 Structure-Process-Outcome Relationship (<i>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</i>):</p> <p>The focus of the measure is to evaluate whether children, or parent/caregivers who have children discharged from an acute care hospital for asthma are provided with a guideline-recommended Home Management Plan of Care, specifically addressing Use of Relievers, Use of Controllers, Rescue Treatment, Control of Asthma Triggers and Follow up care. Recent National Quality Forum activity supports measures that address follow up care in projects related to Coordination of Care. The use of such a continuing care plan will result in better informed patients who will be able to manage their disease independently, thereby reducing the incidence of acute exacerbation of asthma and subsequent morbidity and mortality and hospital readmission.</p> <p>1c.2-3 Type of Evidence (<i>Check all that apply</i>):</p> <p>Clinical Practice Guideline, Other, Systematic review of body of evidence (other than within guideline development)</p> <p>Individual studies</p> <p>1c.4 Directness of Evidence to the Specified Measure (<i>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</i>):</p> <p>This measure is consistent with the guidelines recommended by the American Academy of Pediatrics and the National Heart Lung and Blood Institute.</p> <p>The central topic of the evidence is to describe the role of discharge education compiled into a Home Management Plan of Care focusing on arrangements for follow up care, modification of environmental triggers, methods of action and timing for rescue actions, and use of relievers and controllers. The required components of this measure se are consistent with these guidelines. This measure does not specify the type of home management plan of care, nor does it ensure that peak flow readings or asthma control testing accompanies the plan. Those specifications are left up to the participating healthcare organization, as to make certain that the methods included in the plan match the type of resources available to the patient.</p> <p>1c.5 Quantity of Studies in the Body of Evidence (<i>Total number of studies, not articles</i>): All studies comprise the pediatric population. One nonrandomized control trial was reviewed addressing peak flow and self management. Of 19 randomized control trials 5 (26%) addressed peak flow and management, one addressed home based education plans and one addressed environmental interventions, while 12 (63%) addressed usual discharge instruction vs peak flow and action plan.</p> <p>RCT</p> <p>QTY Subject of the study</p> <p>1 Home-Based Asthma Education Plan</p> <p>2 Peak flow and self management</p> <p>3 Peak flow and reported symptoms</p> <p>1 Home Environment Intervention</p> <p>12 Usual discharge instruction vs Peak Flow Meter and Action Plan</p> <p>NRCT</p>			

QTY Subject of the Study
1 Peak Flow and Self Management

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*): There are limitations to the number of study participants in most recorded studies viewed in the systematic review of literature. Reasons for this include: parental consent must be obtained; lack of understanding of the severity of asthma symptoms of the child assessed, as well as increasing population sizes. Culture differences must be accounted for when reviewing discharge instructions, language barriers and other nonspecific communication barriers. Severity of disease and economic limitations were also considered when reviewing the outcomes of caregivers understanding of a Home Management Plan of Care. All studies reviewed were of exclusive pediatric populations, and therefore data can be generalized to the population of this measure set.

1c.7 Consistency of Results across Studies (*Summarize the consistency of the magnitude and direction of the effect*): Evidence suggests a great deal of variability in asthma treatment and that the recommended guidelines are not being followed consistently. Patients are not using medications regularly or as recommended by the guidelines. There is strong but limited evidence that written action plans to self-guided management education significantly improves outcomes and that children require less frequent acute care visits.

There are limited trials with respect to the benefit of providing a written action plan vs. not providing a written plan. Some findings suggest that the effectiveness of written treatment plans was inconclusive. Evidence suggests that symptom-based action plans are superior to peak flow action plans for preventing acute care visits. As noted above, this measure does not specify the type of action plan used with the patient, due to the nature of unknown resources available to the patient. There are trials that support reductions in ER utilization with the use of peak flow meter based action plans. Patients who have received action plans are less likely to be symptomatic underusers of controller medications. Although the results of studies are mixed, they suggest that the use of written plans may help patients improve control of their asthma, particularly in preventing or managing asthma exacerbations.

These findings are quite consistent across hundreds of clinical trials and for many patient populations.

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

As described before, most randomized trials consisted of testing type of action plan, action plan with peak flow monitoring and asthma control testing. All studies noted that withholding action plans and discharge without education was contradictory to acceptable practice. Use of action plans demonstrate that outcomes of asthmatic events were improved.

Patients of high risk for limited follow up, so as those insured by Medicaid will benefit from a decrease in repeated asthma admissions by 15% (Camargo, C.A. et al., 2007). Continued studies done by the Oklahoma Pediatric Asthma Program, and The Mayo Clinic find the Asthma Plan of Care increased asthma free days and decreases school absence in the pediatric population they are treating (<http://www.mayoclinic.com/health/asthma/HQ00273>).

Use of a written action plan as a risk reduction tool is noted in the NHLBI guideline. Risk reduction focuses on periodic healthcare assessments along with a patient self assessment to identify uncontrolled asthma symptoms (NHLBI guideline Section3 Component 1).

Use of the HMPC can increase use of controller therapy by 73%, according to a study designed by the Quality Assessment (ACQA) (Stanton and Dougherty, 2005). Providing information about asthma medications, specifically controllers and relievers, will result in control of asthmatic symptoms and there for decrease recurring admissions to the overburdened health care system due lack of understanding and follow up monitoring. Use of this measure may decrease morbidity of asthmatic children, and decrease mortality of at risk children as well.

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: **National Heart Lung and Blood Institute**

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

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

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

1c.14 Summary of Controversy/Contradictory Evidence: There is no documented evidence regarding controversy related to varied content in discharge teaching, or written action plans around pediatric asthma education. Research reviewed included many studies supporting patient education and discharge teachings. There is controversy on methods of communicating and methods of delivery (i.e. paper instruction versus video) on patient education materials in general, as well as caregiver satisfaction with their education on prescribed medications in general. There is also much discussion regarding controversy that exists as to how to best manage noncompliance with follow up appointments, use of controller medications, and action plans for symptom management. However, there was no evidence indicating controversy with regard to the value of patient education in the form of a written home management plan of care.

A recent article addressing the measure noted moderate compliance with the measure, but no association between compliance and subsequent ED visits and asthma related readmissions (Morse, et al., 2011). Three important considerations need to be taken into account in evaluating this critique. First, the risk model used for risk-adjusting the outcome measures was not specifically developed for the pediatric asthma population but was developed for the entire pediatric population. Second, the study acknowledged as a limitation that the appropriate outcome measures expected to be associated with improvements in CAC-3 compliance may not have been identified. Third, the data collected were limited to children's hospitals which would be expected to have less variability in both the process and outcomes measures compared to the national hospital population making it less likely to identify significant relationships between process and outcomes measures.

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

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Stoloff, S (2000). Current Asthma Management: The Performance Gap and Economic Consequences. The American Journal of Managed Care. Vol. 6, No. 17. Sup. P.S918-928.

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

ROLE OF WRITTEN ASTHMA ACTION PLANS FOR PATIENTS WHO HAVE ASTHMA

The Expert Panel recommends that clinicians provide to all patients who have asthma a written asthma action plan that includes instructions for (1) daily management and (2) recognizing and handling worsening asthma, including adjustment of dose of medications. Written action plans are particularly recommended for patients who have moderate or severe persistent asthma, a history of severe exacerbations, or poorly controlled asthma (Evidence B). Section 3, Component 2 Page 151.

1c.17 Clinical Practice Guideline Citation: National Center for Heart Lung and Blood Institute (2007) National Asthma Education and Prevention Program Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma Full Report. United States Department of Health and Human Services.

1c.18 National Guideline Clearinghouse or other URL:

www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf .

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: **National Heart Lung and Blood Institute**

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

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

1c.23 Grade Assigned to the Recommendation: **B**

1c.24 Rationale for Using this Guideline Over Others: The National Heart, Lung, and Blood Institute (NHLBI) provides global leadership for research to promote the prevention and treatment of heart, lung, and blood diseases and enhance the health of all individuals. NHLBI reviews are used in deliberation of other guideline establishment, including American Academy of Pediatrics. Practice Bulletins provide pulmonologists and pediatricians with current information on established techniques and clinical management guidelines. The NHLBI continuously surveys the field for advances to be incorporated in this series and monitors existing recommendations to ensure they are current.

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: **Moderate** 1c.27 Consistency: **High**

1c.28 Attach evidence submission form:

1c.29 Attach appendix for supplemental materials:

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

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

Provide rationale based on specific subcriteria:

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

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

2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (**evaluation criteria**)

Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See [guidance on measure testing](#).

S.1 Measure Web Page (*In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained*). Do you have a web page where current detailed specifications for this measure can be obtained? **Yes**

S.2 If yes, provide web page URL:

http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures/

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*):

Pediatric asthma inpatients with documentation that they or their caregivers were given a written Home Management Plan of Care (HMPC) document that addresses all of the following:

1. Arrangements for follow-up care
2. Environmental control and control of other triggers
3. Method and timing of rescue actions
4. Use of controllers
5. Use of relievers

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

Episode of care

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):*

Pediatric asthma inpatients discharged with a distinct or stand alone HMPC document that addresses the specific topic areas above. Seven data elements are used to calculate the numerator.

1. Home management Plan of Care Document is Present. Definition: The Home Management Plan of Care (HMPC) document, separate and patient-specific should be a written instruction given to the patient/caregiver. The document must be present in the medical record, in the form of an explicit and separate document specific to the patient rather than components or segments of the plan spread across discharge instruction sheets, discharge orders, education sheets, or other instruction sheets.
2. Home Management Plan of Care Document Given to Patient/Caregiver. Definition: Documentation exists that the Home Management Plan of Care (HMPC) as a separate document, specific to the patient, was given to the patient/caregiver, prior to or upon discharge.
3. Home Management Plan of Care Document Addresses Arrangements for Follow-up Care. Definition: Includes information that arrangements for referral or follow-up care with a healthcare provider has been made.
4. Home Management Plan of Care Document Addresses Environmental Control and Control of Other Triggers. Definition: Includes written information on avoidance or mitigation of environmental and other triggers.
5. Home Management Plan of Care Document Addresses Methods and Timing of Rescue Actions. Definition: Addresses what to do if asthma symptoms worsen after discharge.
6. Home Management Plan of Care Document Addresses Use of Controllers. Definition: Must include information on the appropriate use of controllers. This information must include the medication name, dose, frequency, and method of administration, in order to adequately maintain control of asthma.
7. Home Management Plan of Care Document Addresses Use of Relievers. Definition: Must include written information on the appropriate use of relievers. This information must include the medication name, dose, frequency, method of administration, and a stepwise method of adjusting the dose, based on severity of symptoms, in order to quickly relieve the symptoms of asthma exacerbation (asthma attack or asthma episodes).

2a1.4 Denominator Statement *(Brief, narrative description of the target population being measured):*
Pediatric asthma inpatients (age 2 years through 17 years) discharged with a principal diagnosis of asthma.

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

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

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):

Six Data Elements are used to calculate the denominator:

Admission Date: defined as the month, day, and year of admission to acute inpatient care.

Birthdate: defined as the month, day, and year the patient was born.

Clinical Trial: defined as Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with the same condition as the measure set were being studied

Discharge Disposition: defined as the final place or setting to which the patient was discharged on the day of discharge.

Discharge Date: defined as the month, day, and year the patient was discharged from acute care, left against medical advice, or expired during this stay.

ICD-9-CM Principal Diagnosis Code for asthma as defined in Appendix A. Table 6.1 below

Table 6.1 Asthma

Code	Shortened Description
493.00	EXTRINSIC ASTHMA NOS
493.01	EXT ASTHMA W STATUS ASTH
493.02	EXT ASTHMA W(ACUTE) EXAC
493.10	INTRINSIC ASTHMA NOS
493.11	INT ASTHMA W STATUS ASTH
493.12	INT ASTHMA W (AC) EXAC
493.81	EXERCISE IND BRONCHOSPASM
493.82	COUGH VARIANT ASTHMA
493.90	ASTHMA NOS
493.91	ASTHMA W STATUS ASTHMAT
493.92	ASTHMA NOS W (AC) EXAC

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

Excluded Populations:

- Patients with an age less than 2 years or 18 years or greater
- Patients who have a Length of Stay greater than 120 days
- Patients enrolled in clinical trials

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):

- The patient age in years is equal to the Admission Date minus the Birthdate. The month and day portion of the admission date and birthdate are used to yield the most accurate age.
- Length of stay (LOS) in days is equal to the Discharge Date minus the Admission Date. If the LOS is greater than 120 days the patient is excluded.
- Patients are excluded if "Yes" is selected for Clinical Trial.

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):

None

2a1.11 Risk Adjustment Type (Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13): No risk adjustment or risk stratification **2a1.12 If "Other," please describe:**

2a1.13 Statistical Risk Model and Variables (Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development should be addressed in 2b4.):

None

2a1.14-16 Detailed Risk Model Available at Web page URL (or attachment). Include coefficients, equations, codes with descriptors, definitions, and/or specific data collection items/responses. Attach documents only if they are not available on a webpage and keep attached file to 5 MB or less. NQF strongly prefers you make documents available at a Web page URL. Please supply login/password if needed:

2a1.17-18. Type of Score:

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):

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.):

1. Start processing. Run cases that are included in the CAC Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.
2. Check Clinical Trial
 - a. If Clinical Trial is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Clinical Trial equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
 - c. If Clinical Trial equals No, continue processing and proceed to Discharge Disposition.
3. Check Discharge Disposition
 - a. If Discharge Disposition is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Discharge Disposition equals 2, 3, 4, 5, 6 or 7, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
 - c. If Discharge Disposition equals 1 or 8, continue processing and proceed to Home Management Plan of Care Document Present.
4. Check Home Management Plan of Care Document Present
 - a. If Home Management Plan of Care Document Present missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Home Management Plan of Care Document Present equals No, the case will proceed to a Measure Category Assignment of D and will be in the measure population. Stop processing.
 - c. If Home Management Plan of Care Document Present equals Yes, continue processing and

proceed to Home Management Plan of Care Document given to Patient/Caregiver.

5. Check Home Management Plan of Care Document given to Patient/Caregiver
 - a. If Home Management Plan of Care Document given to Patient/Caregiver is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Home Management Plan of Care Document given to Patient/Caregiver equals No, the case will proceed to a Measure Category Assignment of D and will be in the measure population. Stop processing.
 - c. If Home Management Plan of Care Document given to Patient/Caregiver Present equals Yes or R (Refused), continue processing and initialize Missing Counter and Complete Plan Counter.
6. Initialize Missing Counter and Complete Plan Counter. Set both counters equal to zero. Continue processing and proceed to Home Management Plan of Care Addresses Arrangements for Follow-up Care.
7. Check Home Management Plan of Care Addresses Arrangements for Follow-up Care.
 - a. If Home Management Plan of Care Addresses Arrangements for Follow-up Care is missing, add 1 to the Missing Counter. Continue processing and proceed to Home Management Plan of Care Addresses Environmental Control and Control of Other Triggers.
 - b. If Home Management Plan of Care Addresses Arrangements for Follow-up Care equals 4, continue processing and proceed to Home Management Plan of Care Addresses Environmental Control and Control of Other Triggers.
 - c. If Home Management Plan of Care Addresses Arrangements for Follow-up Care equals 1, 2, or 3, add 1 to the Complete Plan Counter. Continue processing and proceed to Home Management Plan of Care Addresses Environmental Control and Control of Other Triggers.
8. Check Home Management Plan of Care Addresses Environmental Control and Control of Other Triggers
 - a. If Home Management Plan of Care Addresses Environmental Control and Control of Other Triggers is missing, add 1 to the Missing Counter. Continue processing and proceed to Home Management Plan of Care Addresses Methods and Timing of Rescue Actions.
 - b. If Home Management Plan of Care Addresses Environmental Control and Control of Other Triggers equals No, continue processing and proceed to Home Management Plan of Care Addresses Methods and Timing of Rescue Actions.
 - c. If Home Management Plan of Care Addresses Environmental Control and Control of Other Triggers Yes, add 1 to the Complete Plan Counter. Continue processing and proceed to Home Management Plan of Care Addresses Methods and Timing of Rescue Actions.
9. Check Home Management Plan of Care Addresses Methods and Timing of Rescue Actions
 - a. If Home Management Plan of Care Addresses Methods and Timing of Rescue Actions is missing, add 1 to the Missing Counter. Continue processing and proceed to Home Management Plan of Care Addresses Use of Controllers.
 - b. If Home Management Plan of Care Addresses Methods and Timing of Rescue Actions equals No, continue processing and proceed to Home Management Plan of Care Addresses Use of Controllers.
 - c. If Home Management Plan of Care Addresses Methods and Timing of Rescue Actions Discharge Instructions Address Follow-up Monitoring equals Yes, add 1 to the Complete Plan Counter. Continue processing and proceed to Home Management Plan of Care Addresses Use of Controllers.
10. Check Home Management Plan of Care Addresses Use of Controllers
 - a. If Home Management Plan of Care Addresses Use of Controllers is missing, add 1 to the Missing Counter. Continue processing and proceed to Home Management Plan of Care Addresses Use of Relievers.
 - b. If Home Management Plan of Care Addresses Use of Controllers equals No, continue processing

and proceed to Home Management Plan of Care Addresses Use of Relievers.

c. If Home Management Plan of Care Addresses Use of Controllers equals Yes, add 1 to the Complete Plan Counter. Continue processing and proceed to Home Management Plan of Care Addresses Use of Relievers.

11. Check Home Management Plan of Care Addresses Use of Relievers

a. If Home Management Plan of Care Addresses Use of Relievers is missing, add 1 to the Missing Counter. Continue processing and proceed to Missing Counter.

b. If Home Management Plan of Care Addresses Use of Relievers equals No, continue processing and proceed to the Missing Counter.

c. If Home Management Plan of Care Addresses Use of Relievers equals Yes, add 1 to the Complete Plan Counter. Continue processing and proceed to the Missing Counter.

12. Check Missing Counter

a. If the Missing Counter is greater than zero, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If the Missing Counter equals zero, continue processing and proceed to the Complete Plan Counter.

13. Check the Complete Plan Counter

a. If the Complete Plan Counter is less than 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

b. If the Complete Plan Counter Education Counter equals 5, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.

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

Attachment

2zo_CAC3[1].pdf

2a1.24 Sampling (Survey) Methodology. If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate):

Hospitals that choose to sample have the option of sampling quarterly or sampling monthly. A hospital may choose to use a larger sample size than is required. Regardless of the option used, hospital samples must be monitored to ensure that sampling procedures consistently produce statistically valid and useful data. Due to exclusions, hospitals selecting sample cases MUST submit AT LEAST the minimum required sample size.

Quarterly Sample Size

Based on Initial Patient Population Size for the CAC Measure Set

Hospital's Measure

Average Quarterly

Stratum Initial Patient Population Size

"N"

Minimum Required

Stratum Sample Size

"n"

=971

195

196-970

20% of Initial Patient Population size

39-195

39

< 39

No sampling; 100% Initial Patient population required

Monthly Sample Size
Based on Initial Patient Population Size for the CAC Measure Set

Average Monthly
Stratum Initial Patient Population Size
"N" Minimum Required
Stratum Sample Size
"n"

= 321 65
66-320 20% of Initial Patient Population size
13-65 13
< 13 No sampling; 100% Initial Patient Population required

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

Electronic Health Records, Other, 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.): Each data element in the data dictionary includes suggested data sources. The data are collected using contracted Performance Measurement Systems (vendors) that develop data collection tools based on the measure specifications. The tools are verified and tested by Joint Commission staff to confirm the accuracy and conformance of the data collection tool with the measure specifications. The vendor may not offer the measure set to hospitals until verification has been passed.

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

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

Attachment
CAC Data Dictionary NHIQM 4.0-634618915634194100.pdf

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

Facility, Other

2a1.34-35 Care Setting (Check all the settings for which the measure is specified and tested):

Inpatient/Hospital

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):

This measure has been in national use since the 2nd quarter of 2007 by hospitals who volunteer to use this measure. Demographics of organizations collecting and reporting data on these measures are as follows:

170 Healthcare organizations representing various types, locations and sizes.

17 For Profit, 125 Not for Profit, 10 Military Facilities, 3 County Facilities, 7 State Facilities and 8 Other

States represented in this data collection effort include: AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, HI, ID, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, MT, NC, NE, NJ, NM, NV, NY, OH, OK, OR, PA, PR, SC, SD, TN, TX, UT, VA, WA, WI, WV.

15 Performance Measurement Systems are used for data transmission to The Joint Commission.

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

At the time this measure was originally tested in 2005, extensive tests of measure reliability were conducted. Pilot testing consisted of a five month data collection period using both concurrent and retrospective approaches with data transmission directly to The Joint Commission. Data were abstracted retrospectively from a randomly selected sample of patient records for July, August and September of 2004. Data were concurrently abstracted from a random sample of records for March and April 2005. The objectives of pilot testing were to evaluate reliability of individual data elements, assess data collection effort and identification of potential measure enhancements.

Currently, hospitals are supported in their data collection and reporting efforts by fifteen contracted performance measurement system (PMS) vendors. It is a contractual requirement of Joint Commission listed vendors that the quality and reliability of data submitted to them by contracted health care organizations must be monitored on a quarterly basis. In addition, The Joint Commission analyzes these data by running 17 quality tests on the data submitted into ORYX. (ORYX is the term used by The Joint Commission to describe the component of the hospital accreditation program which requires data collection and reporting on standardized national performance measures). The following is a list of the major tests done on the submitted ORYX data:

- Transmission of complete data
- Usage of individual core measure data received: To understand if the HCO provides the relevant service to treat the relevant population
- Investigation of aberrant data points
- Verification of patient population and sample size
- Identification of missing data elements
- Validation of the accuracy of target outliers
- Data integrity
- Data corrections

Data Element Agreement Rate:

Inter-rater reliability testing methodology utilized by contracted performance measure system vendors is as follows:

- All clinical data elements and all editable demographic elements are scored.
- All measure data are reabstracted with originally abstracted data having been blinded so that the reabstraction is not biased.
- Reabstracted data are compared with originally abstracted data on a data element by data element basis. A data element agreement rate is calculated. Clinical and demographic data are scored separately, and an overall agreement rate is computed.

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

Data agreement results reported to The Joint Commission for the time period for Q1 and Q2 of 2011 have shown an agreement rate of the following table:

HMPC Control of Environment	100%
-----------------------------	------

HMPC Follow Up Arrangements	96.43%
HMPC Use of Rescue Actions	100%
HMPC Use of Controllers	90.00%
HMPC Use of Relievers	100%
HMPC Document Present	100%

This reflects the findings of 87 hospitals comprising 2,292 records

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

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:

This measure focuses on the creation and provision to the patient of a Home Management Plan of Care to ensure caregiver education is conducted in the inpatient setting prior to discharge with regard to follow up arrangements, environmental modifications, action plan for symptom management use of controller and use of relievers.

The literature supports the use of reliever therapy medications listed on Appendix C, Table 6.2. and controller therapy medications listed on Appendix C, Table 6.1 to reduce bronchial inflammation, constriction and decrease morbidity and mortality of the pediatric asthmatic population. The measure specifications are intended to assist the health care organization using this measure to ensure that adequate education as specified in the guidance of the National Heart Lung and Blood Institute is consistently followed in the treatment of their inpatient population.

2b2. Validity Testing. (*Validity testing was conducted with appropriate method, scope, and adequate demonstration of validity.*)

2b2.1 Data/Sample (*Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*):

The CAC-3 measure has been in national use since the 2nd quarter of 2007. Demographics of organizations collecting and reporting data on these measures are as described above.

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

At the time this measure was originally tested measure validity was assessed via survey and focus groups of hospitals participating in the pilot test. All measure specifications, including population identification, numerator and denominator statements, and data elements and their definitions were found to be understandable, retrievable, and relevant.

Since the measure has been in national use, continued face validity of the measure has been determined through analysis of feedback from measure users. The Joint Commission provides a web-based application with which measure users can provide feedback regarding appropriateness of measure specifications, request clarification of specifications, and/or provide other comments pertinent to the measure. This feedback is systematically continually reviewed in order to identify trends and to identify areas of the measure specifications that require clarification or revision. Additionally, Joint Commission staff continually monitors the national literature and environment in order to assess continued validity of this measure.

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*):

Analysis of feedback obtained via our automated feedback system reveals 403 questions submitted for feedback since this measure was implemented in 2007. Of that population, 272 questions were specific to the CAC-3 measure. Predominant themes of the submitted questions consisted of data element clarifications, specifically to the data element: Home Management Plan of Care Document Addresses Use

of Controllers, and Home Management Plan of Care Document Addresses Arrangements for Follow-up Care.

In response to these issues, small adjustments have been made to The National Hospital Inpatient Quality Measures Specification Manual to clarify Measure Information Forms, Appendices and Table information. These were added to reduce false inclusions and to clarify items such as detection of unknown allergies to corticosteroids.

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

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

2b3.1 Data/Sample for analysis of exclusions (*Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*):
The CAC-3 measure has been in national use since the 2nd quarter of 2007. Demographics of organizations collecting and reporting data on these measures are as reported previously.

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

Measure exclusions that were not derived directly from the evidence are presented below. Please note that these are population exclusions that are necessary to ensure consistency in all measures in this 3 measure set.

These exclusions were analyzed for frequency of occurrence. An issue that is of great concern to users of this measure is that due to the presence of exceptions to the measure, attainment of a 100% measure rate is not possible. Because of the role of this measure in the current Joint Commission accreditation process and its potential role in the determination of value based purchasing incentives, this is especially troubling to measure users. This concern is the basis for the non-evidence-based exclusions to these measures

- Patients who have a Length of Stay greater than 120 days
- Patients enrolled in clinical trials

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

N= 88,490

- Patients who have a Length of Stay greater than 120 days = 0%
- Patients enrolled in clinical trials = 0.15%

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*):

Not applicable

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

Not Applicable

2b4.3 Testing Results (*Statistical risk model: Provide quantitative assessment of relative contribution of model risk factors; risk model performance metrics including cross-validation discrimination and calibration statistics, calibration curve and risk decile plot, and assessment of adequacy in the context of norms for risk models. Risk stratification: Provide quantitative assessment of relationship of risk factors to the outcome and differences in outcomes among the strata*):

Not Applicable

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

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*):

The CAC measure has been in national use since the 2nd quarter of 2007. Demographics of organizations collecting and reporting data on these measures are as previously described.

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

The method used to analyze meaningful differences in performance at The Joint Commission is Target Analysis. The object of target analysis is to compare a health care organization's (HCO) data against a comparative norm for the purpose of evaluating performance improvement opportunities. When an organization's performance level is statistically significantly different from a comparative norm, it is considered a statistical deviation. A statistical deviation may be desirable or undesirable depending on the "direction of improvement" of the measure.

There are two components to the target analysis methodology used at The Joint Commission. Given the national average for a performance measure, a target range is constructed. Using generalized linear mixed models methodology (also known as hierarchical models), a predicted estimate of an HCO's performance, with a corresponding 95% confidence interval, is generated. This confidence interval is compared to the target range, to determine the HCO's rating. The estimate of the organization's true performance is based on both the data from that organization and on data from the entire set of reporting organizations.

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

2007 Aggregate Data:

Scores on this measure: N=157 Mean 0.20598 , SD 0.2605

10th Percentile=0

25th Percentile= 0

50th Percentile= 0.0793

75th Percentile= 0.34615

90th Percentile= 0.54545

2008 Aggregate Data:

Scores on this measure: N=232 Mean 0.43739 SD 0.031621

10th Percentile= 0

25th Percentile= 0.14611

50th Percentile= 0.44444

75th Percentile= 0.69187

90th Percentile= 0.85714

2009 Aggregate Data:

Scores on this measure: N=217

Mean =0.60805, SD= 0.32309

10th Percentile= 0.03226

25th Percentile= 0.38462

50th Percentile= 0.70068

75th Percentile= 0.875

90th Percentile= 1.0

2010 Aggregate Data:

Scores on this measure: N= 211

Mean 0.74492, SD= 0.27523

10th Percentile= 0.27232

25th Percentile= 0.66667

50th Percentile= 0.83945

75th Percentile= 0.94857

90th Percentile= 1.0

2011

Scores on this measure: N=201

Mean =0.79593, SD= 0.2481

10th Percentile= 0.5

25th Percentile= 0.72308

50th Percentile= 0.875

75th Percentile= 0.97959

90th Percentile= 1.0

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 for this measure

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

Not Applicable

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):

Not Applicable

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): This measure is not stratified for disparities.

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

Although a rise in children's asthma is present for all racial groups with the highest increase in African Americans and Hispanic Americans, there are no plans to stratify this measure. The Joint Commission

does not currently capture data elements for race or ethnicity because these data elements have not been shown to be reliably collectable due to the fact that no national standardized definitions exist for these data elements. Also, not all hospitals collect race and ethnicity. In the future, it may be feasible for The Joint Commission to explore how race and ethnicity and other relevant disparity data, might be collected reliably in the future. The measure is currently stratified by age groups capturing advanced maternal age. The data from the different age groups are used in the direct standardization model applied to each hospital's rate.

2.1-2.3 Supplemental Testing Methodology Information:

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

Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

3. USABILITY

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

C.1 Intended Actual/Planned Use (Check all the planned uses for which the measure is intended): Public Reporting, Quality Improvement (Internal to the specific organization)

3.1 Current Use (Check all that apply; for any that are checked, provide the specific program information in the following questions): Public Reporting, Regulatory and Accreditation Programs, 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 Joint Commission has a longstanding commitment to providing meaningful information about the comparative performance of accredited organizations to the public. The Quality Check® Web site, www.qualitycheck.org, launched in 2004, fulfills this commitment. Among other things, Quality Check allows consumers to view or download free hospital performance measure results. Measure rates for CAC-3 and all the CAC measures are included in the hospital performance measure results.

These are the only measures related to children that CMS reports on their public reporting site Hospital Compare (www.hospitalcompare.hhs.gov/). The Joint Commission provides this information to CMS.

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: All measure specifications (e.g., numerator, denominator,

exclusions, data elements and measure calculation algorithms) are standardized in order to produce consistent measure results. Specifications are updated biannually based on feedback from measure users, as well as technical advisory member recommendations and updated clinical practice guidelines. Data are collected using data collection tools that have been verified by The Joint Commission to accurately collect measure data elements and compute measure assignment categories according to the measure specifications. Quarterly data reported to The Joint Commission are subject to a number of data quality tests to ensure the accuracy of the data. The measure rate is computed using a standardized measure calculation algorithm that is Section 508 compliant so the information is understandable to the general public.

The Joint Commission provides an opportunity for abstractors and other measure users to submit questions and feedback about the measure specifications via an on-line website. As discussed previously, this information is used to evaluate the need for revisions and provide abstractors with a database. Measure updates and issues about the measures are presented and discussed at an annual performance measurement system vendor conference. These activities support the Joint Commission's effort to provide results that are useable, understandable and useful for public reporting.

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): The Joint Commission is a national (and international) accreditor of hospitals and other healthcare organizations. This measure set is one of 13 available measure sets from which hospitals can select to meet The Joint Commission's ORYX accreditation program requirement for data collection and reporting. Additional information located at: http://www.jointcommission.org/facts_about_oryx_for_hospitals/. This measure is being considered by CMS for inclusion in the Medicare and Medicaid EHR Incentive Program for Hospitals and CAHs. The Department of Health and Human Services included this measure as part of the Measure Applications Partnership (MAP) Pre-Rulemaking review. In January 2012 the MAP was convened and supported this measure for inclusion in the associated federal program during the next rulemaking cycle for that program.

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

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

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

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

While The Joint Commission developed this measure for and uses results from this measure in its accreditation activities, the measure is also intended for use in internal quality improvement by accredited organizations.

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:

From an accreditation perspective, measure results have proven useful in that they are used in the Priority Focus Process, which helps to focus accreditation survey activities toward areas of greatest need. From the hospital quality improvement perspective, measure rates are included in the Joint Commission's Strategic Surveillance System (S3) product, which is made available at no charge to accredited organizations and is used by them to identify gaps in the care they provide relative to other measure users. Aggregate measure results have improved over time, indicating that they are being used by hospitals to identify and address areas in need of improvement. The Joint Commission has been developing a multifaceted initiative to help hospitals improve their performance on measures, with the ultimate goal of improving patient outcomes. For example, the Joint Commission has recently developed a new standard that integrates performance expectations on accountability measures into the accreditation standards.

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), Other

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*): Some data elements are in electronic sources

4b.2 If ALL data elements are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources: The Joint Commission is in the process of preparing for conversion to eMeasure specifications beginning in the 4th quarter 2011 for the CAC measure set.

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:

When the Children's Asthma Care (CAC) measures were first published in the aligned Specifications Manual for National Hospital Quality Measures, minor updates were made to the measure information forms and data elements in the Data Dictionary to provide that the verbiage for CAC was consistent with all of the other aligned measure sets and concordant with current General Abstraction Guidelines in the specifications manual.

During the time that the measure was implemented as a test measure, input from users indicated that the data element: Home Management Plan of Care Document Addresses Appointment for Follow-up Care was difficult to comply with. If the patient was discharged after hours, on weekends, or holidays, it was not always possible for hospital staff to make an appointment for follow-up care. This would result in failure of the measure. In order to prevent the case from failing due to a circumstance beyond hospital control, the data element was updated to Home Management Plan of Care Document Addresses Arrangements for Follow-up Care. While it is still preferable that the actual appointment be made, if this is not possible, the hospital is required to provide the patient/caregiver the information needed to procure an appointment with instructions for a specified time frame in which to do so.

Subsequent to the above issue measure users began reporting difficulties in compliance with this measure if a patient was from out of state or out of the country. In order to address this issue, notes for abstraction were added to clarify abstraction if the patient's home is out of state or out of the country.

Notes for abstraction were added to data elements to clarify for the abstractor that prison or law enforcement personnel can be considered the caregiver for a patient being discharged to prison/jail.

The medication tables for relievers and controllers are reviewed with every specifications manual publication. The tables are updated via consultation with a PharmD member of the asthma advisory panel to insure that the most current list of relievers and controllers available is provided at the time of publication. Selected References were updated to reflect current guidelines. To the best of our knowledge, there have been no reports of unintended consequences.

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):

Hospitals using this performance measure generally collect measure data via manual review of the paper medical record. Collected data are submitted to The Joint Commission on a quarterly basis, by way of contracted performance measurement system vendors, as described previously. Specifications for this measure are freely available to anyone who wishes to use the measure. Feedback from hospitals using this measure indicates that required data elements are generally available in the medical record, and measure specifications are robust and easy to understand. As described above, as feedback from measure users has indicated the need for clarification or revision of measure specifications, this has taken place.

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

0283 : Asthma in Younger Adults Admission Rate (PQI 15)

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:

The measures all share the same focus of care, asthma. The target population varies by age from measure to measure. Age variability: (all patients older than those in the CAC measures. 0001 5 - 40 0025 not stated 0036 5 -56 0047 5 - 40 0283 18 & older 0548 5 - 50 Setting variability: They all are different from our measures because the setting is ambulatory care rather than inpatients. All of the measures noted above are intended for use in the ambulatory setting.

5b. Competing Measure(s)

5b.1 If this measure has both the same measure focus and the same target population as NQF-endorsed measure(s):

Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible):

None

CONTACT INFORMATION

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

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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.

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

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.3 Year the measure was first released: 2007

Ad.4 Month and Year of most recent revision: 01

Ad.5 What is your frequency for review/update of this measure? Biannual

Ad.6 When is the next scheduled review/update for this measure? 06, 2012

Ad.7 Copyright statement: The Specifications Manual for National Hospital Inpatient Quality Measures Version 4.0, January, 2012 is the collaborative work of the Centers for Medicare & Medicaid Services and The Joint Commission. The Specifications Manual is periodically updated by the Centers for Medicare & Medicaid Services and The Joint Commission. Users of the Specifications Manual for National Hospital Inpatient Quality Measures must update their software and associated documentation based on the published manual production timelines.

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Ad.8 Disclaimers:

Ad.9 Additional Information/Comments: The Month and Year of the Most Recent Revision is Jan 2012. ICD 9- ICD10 Crosswalk included via email.

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