

# 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 #: <b>0144</b> NQF Project: <b>Pulmonary Project</b>
(for Endorsement Maintenance Review) Original Endorsement Date: <b>Mar 09, 2007</b> Most Recent Endorsement Date: <b>Mar 09, 2007</b>
<b>BRIEF MEASURE INFORMATION</b>
De.1 Measure Title: <b>CAC-2 Systemic corticosteroids for Inpatient Asthma</b>
Co.1.1 Measure Steward: <b>The Joint Commission</b>
De.2 Brief Description of Measure: <b>Use of systemic corticosteroids in pediatric asthma patients (age 2 through 17 years) admitted for inpatient treatment of asthma. This measure is a part of a set of three nationally implemented measures that address children's asthma care (CAC-1: Relievers for Inpatient Asthma, CAC-3: Home Management Plan of Care (HMPC) Document Given to Parent/Caregiver) that are used in The Joint Commission's accreditation process.</b>
2a1.1 Numerator Statement: <b>Pediatric asthma inpatients who received systemic corticosteroids during hospitalization.</b>
2a1.4 Denominator Statement: <b>Pediatric asthma inpatients (age 2 years through 17 years) who were discharged with a principal diagnosis of asthma.</b>
2a1.8 Denominator Exclusions: <b>Excluded Populations:</b>
<ul style="list-style-type: none"> <li>• Patients with an age less than 2 years or 18 years or greater</li> <li>• Patients who have a Length of Stay greater than 120 days</li> <li>• Patients enrolled in clinical trials</li> <li>• Patients with a documented Reason for Not Administering Systemic Corticosteroids</li> </ul>
1.1 Measure Type: <b>Process</b>
2a1. 25-26 Data Source: <b>Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Records</b>
2a1.33 Level of Analysis: <b>Facility, Population : National</b>
1.2-1.4 Is this measure paired with another measure? <b>No</b>
De.3 If included in a composite, please identify the composite measure ( <i>title and NQF number if endorsed</i> ): <b>Not applicable</b>

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

Staff Reviewer Name(s):

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

Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See [guidance on evidence](#).

*Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria. (evaluation criteria)*

1a. High Impact: H  M  L  I

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

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

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

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):

According to the 2006-2008 data from the Center for Disease Control (CDC), 9.3% of the US population is composed of children suffering from asthma (CDC Health Disparities and Inequalities Report, 2011). This number has increased from 2001-2003 statistics which reported 8.5% of current asthma prevalence in the US ([www.cdc.gov](http://www.cdc.gov)).

Consequently, the US healthcare system is greatly impacted by the demand to service this growing population (Brown, et al, 2004). Guideline recommendations for therapies such as systematic corticosteroid use in inpatient asthma maintenance programs will relieve the burden of care pushed off to ambulatory care programs. Additionally multiple studies noted an increase in expenses, as well as an annual incidence of hospital admissions 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). Appropriate care upon initial hospitalization has been shown to decrease recurring admission. This rate has decreased over time, when asthma incidence is still rising, however, Akinbami (2006) notes this represents the more severe exacerbations that require hospitalized care, when compared with past years' rates.

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). Asthma admissions account for 3% of all childhood hospitalizations (Akinbami, 2006). Chronic asthma in children can account for an annual loss of more than 14 million school days per year, according to the 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). Less effective treatment modalities of chronic asthmatic children has affected the already overwhelmed healthcare system in the US.

Although there are means to prevent attacks or exacerbations among children with asthma, unfortunately, the majority of children with asthma do not have the disease under control and still suffer from acute asthma attacks, or exacerbations of asthma ([www.cdc.gov/nchs/products/pub/pub](http://www.cdc.gov/nchs/products/pub/pub), 2006). Use of systematic corticosteroids has been common practice since the early 1900's when the first discussion of oral steroid use was published in the JAMA (Solis-Cohen, 1900). Schuh, S., et al (2000) reviewed data showed superior efficacy with systemic corticosteroids in their research study when compared to inhaled steroid therapy. Today, there are multiple guidelines that support the use of steroids in asthma therapy for children and adults. The National Asthma Education and prevention program 1997 Guideline Expert Panel Report (2002 updated) still recommends the use of anti-inflammatory medication for persistent asthma symptoms.

However, the frequency of use, and the urgency of use, still remains a problem today. Parent and child education in respect to the purpose of controller medication or steroid therapy is still lacking in the healthcare field (Stanton and Dougherty, 2005). The Cochrane Collaboration has conducted a meta analysis summarizing 12 randomized trials that support the overwhelming evidence of improved outcomes when systemic corticosteroids are used appropriately in care of asthmatic children (Rowe et al, 2001). Guideline publication such as that mentioned above, along with The American College of Chest Physicians (ACCP), the American

Academy of Pediatrics (AAP), The National Asthma Education and Prevention Program (NAEPP), and The National Heart Lung and Blood Institute (NHLBI), all recommend the use of steroid therapy to gain control of chronic asthma symptoms, and reduce severity of asthmatic attacks as quickly as possible (Castro-Rodriguez, 2009).

As noted in President Obama's Health Plan and Community Based Prevention statement, multiple supportive articles and randomized control trials indicate that inadequate control remains a healthcare problem today (Goodman, A., 2009). Inadequate control comprises: asthma symptom days, use of asthma medications, school days missed, 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](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](http://www.aafa.org/display.cfm?id=9&sub=42#_ftn20).

Akinbami, L, J. (2006). Advanced Data from Vital and Health Statistics: The State of Childhood Asthma, United States 1980-2005. Us Department of Health and Human Services, Center for disease control and prevention National Center for Health Statistics; No. 381, December 12, 2006.

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.

Castro-Rodriguez, J.A., and Rodrigo, G. (2009). Efficacy of Inhaled Corticosteroids in Infants and Preschools with Recurrent Wheezing and Asthma: A Systematic Review with Metal-analysis. *Pediatrics*, Vol 123, No. 3 Retrieved on November 29, 2011, from <http://www.pediatrics.aapublications.org>.

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>.

Chang, A., Clark, R., Sloots, T., Stone, D., Petsky, H., Thearle, D., Champion, A., Wheeler, C., Acworth, J.(2008). A 5 day versus 3 day course of oral corticosteroids for children with asthma exacerbations who are not hospitalized: a randomized controlled trial. *MJA*, Vol 189, No. 6, P306-310.

Crain, E.F., Weiss, K.B., Fagan, M.J. (1995). Pediatric Asthma Care in US Emergency Departments: Current Practice in the Context of the National Institute of Health guidelines. *Arch Pediatr Adolesc Med*. 1995;149:893-901.

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.

Goodman, A (2009). President Obama's Health Plan and Community-Based Prevention. *American Journal of Public Health*: October 2009, Vol. 99, No. 10, pp. 1736-1738. doi: 10.2105/AJPH.2009.174714

Iqbal, S.M., Rowe, B.H., N'Diaye, T. (2008). Corticosteroid for hospitalized children with acute asthma (Review). *The Cochran Collaboration*. Retrieved from <http://www.thecochranelibrary.com>.

Kasper, W.J., and Howe, P.A. (1990). Fatal Vericella after a Single Course of Corticosteroids. *Pediatric Infectious Disease* 1990, vol 9, p 729-732.

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.

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.

Mellon, M., and Parasuraman, B. (2004). Pediatric Athma: Improving Management to Reduce Cost of Care. Journal of Managed Care Pharmacy; vol 10, No.2 p130-140.

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/>.

Panickar, J., Lakhanpaul, M., Lambert, P., Kenia, P., Stephenson, T., Smyth, A., and Grigg, J. (2009). Oral Prednisolone for Preschool Children with Acute Virus-Induced Wheezing. New England Journal of Medicine 2009; 329-338.

Rowe, B.H., Edmonds, M.L., Spooner, C.H., Diner, B., and Camargo, C.A. (2004). Corticosteroid therapy for acute asthma. Elsevier Ltd. Retrieved December 20th, 2011 from doi:10.1016/j.rmed.2003.11.016

Rowe, B.H., Spooner, C., Ducharme, F.M., Bretzlaff, J.A., Bota, G.W.(2001). Early emergency department treatment of acute asthma with systemic corticosteroids. Cochrane Database Systemic Review.

Rowe BH, Spooner C, Ducharme F, Bretzlaff J, Bota G. (2007). Corticosteroids for preventing relapse following acute exacerbations of asthma. Cochrane Database of Systematic Reviews 2007, Issue 3. Art. No.: CD000195. DOI: 10.1002/14651858.CD000195.pub2.

Rachelefsky, G.(2003). Treating Exacerbations of Athma in Children: The Role of Systemic Corticosteriods. Pediatrics 2003; 112:382-397.

Schuh, S., Reisman, J., Alshehri, M., Dupuis, A., Corey, M., Arseneault, R., Allothman, G., Tennis, O., Canny, G. (2000). A Comparison of Inhaled Fluticasone and Oral Prednisone for Children with Severe Acute Asthma. New England Journal of Medicine; vol 343 No. 10 p 689-694.

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.

Smith, A.D., Cowan, J.O., Brassett, K.P., Herbison, P., Taylor, R. (2005). Use of exhaled nitric oxide measurements to guide treatment in chronic asthma. The New England Journal of Medicine, Vol 352, No. 21, p2163-2173.

Solis-Cohen, S (1900). The use of adrenal substance in the treatment of asthma. JAMA.34:1164.

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

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.

**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:**

The routine practice of using corticosteroids for symptom management has been the standard of treatment for asthmatic patients since the early 1900's, yet as noted above, asthma treatment today for children is not optimally managed.

This measure assists health care organizations (HCOs) in tracking administration of systemic corticosteroids in the target population, therefore decreasing incidence of morbidity and mortality related to acute exacerbation of asthma in children. Additionally, due to the high cost of treatment due to failed inappropriate care, use of recommended treatment to the pediatric asthmatic population will significantly decrease the cost of asthma care overall.

**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 for overall care of pediatric asthmatics of 95% was determined in a study noted by Stoloff (2000). He which reviewed the treatment plans of physicians treating both children and adults.

There are many opportunities for improvement in the treatment of asthmatic children. An increase in the use of steroid therapy for uncontrolled asthmatic children is needed not only for disease treatment, but also in the identification of uncontrolled asthmatic symptoms. Tsai et al (2009) states that previous to 2009, current use of corticoid steroids in the Emergency Department is reported to be approximately only 60%-70% in the United States. He notes that from the information learned in his past study, that among those treated, "there often is a delay in delivery". Tsai also notes a study conducted on adolescents and adults, and believes that causes of delayed use of systemic corticosteroids was commonly due to clinical presentation or moderate oxygen saturation, a lower respiratory rate, or history of never being intubated in asthmatic attack.

A possible reason for this performance gap can be a result of poor adherence to written NHLBI guidelines, as noted by Stoloff's article above. There is discussion that physicians believe that mild persistent or mild intermittent asthma has very little risk of mortality, and do not take immediate action when patients present with symptoms. Post mortem evaluations of 51 deaths in children and adolescents during a 3 year period found that the primary cause of death was "sudden or dramatic worsening of disease" and not reflective of "disease severity" (Stoloff, 2000). He notes that the post mortem study found that 32% had a documentation of mild-persistent or even mild-intermittent asthma, some with no emergency visit or hospitalization history at all.

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-2a is 99.3% as of 2nd quarter 2011. Since data collection on this measure began nationally in the second quarter of 2007, aggregate performance has improved from 97.1%. Although current performance appears high, 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*] 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](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*]

For children (9.3% general prevalence), asthma prevalence was higher among Puerto Rican Hispanics (18.4%), non-Hispanic blacks (14.6%), and the multiracial (13.6%) than among non-Hispanic whites (8.2%). Asthma prevalence was higher among males (10.7%) than among females (7.8%). Among poor children, Puerto Rican children, multiracial children, and non-Hispanic black

children had higher asthma prevalence (23.3%, 21.1%, and 15.8%, respectively) than poor non-Hispanic white children (10.1%) (Moorman et al., 2011).

A systematic review of literature done by Elster et al.(2003) reveals differing treatments in preventive medicine in different racial/ethnic groups, in emergency room treatment and follow-up or scheduled office visits. In a study by McDaniel et al. (2006) a significant margin of difference in routine care of asthmatic African American children was found. This was attributed to lack of resources, lack of insurance, or lack of parental identification of when the asthmatic child needed medical assistance for care other than emergencies.

Studies that examine poverty included analysis of poverty level, related to access to hospitals, or healthcare generally, and level of caregivers' understanding of acute asthma exacerbation. These studies found that African American children were more likely to report to the emergency room when compared with Caucasian American children (Mc Daniels, et al., 2006).

Those children would be less likely to control their disease with outpatient therapy or maintenance drugs, other than those used and prescribed during their emergency visits (McDaniel et al, 2006). Hospitals serving inner city populations and those with crowding have a decreased time of administration of asthma medications, in relation to their average wait times (Tsai, et al., 2009). Urban hospitals evaluated in Tsai et al.'s 2009 study of adults found that age and sex had a factor in receiving systemic corticosteroids. Stanton and Dougherty reviewed data collected by the Asthma Care Quality Assessment (ACQA) Study and noted a "very high rate" (73%) of children enrolled in the Medicaid managed care population reported underuse of controller therapy.

Historically, asthma has been documented as more prevalent in childhood boys, when compared to childhood girls; however, equal prevalence has been reported in girls and boys in very young children. It is important to note, however, that the reliability of the diagnoses of asthma in the "very young child" is not clear. Low birth weight has also been determined a risk factor for asthma, as well as maternal characteristics, including Basal Metabolic Index, smoking and self reported asthma. Debate continues as to the relationship between socio economic status, low birth weight, maternal health and asthma prevalence (Mc Daniel et al., 2006).

**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.

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. Agency for Healthcare Research and Quality, Advancing Excellence in Health Care, Issue 18.

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.

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

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

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

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	Does the measure pass subcriterion1c? Yes <input type="checkbox"/> IF rationale supports relationship
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**1c.1 Structure-Process-Outcome Relationship** (*Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome*):

The focus of the measure is to evaluate whether children admitted to acute care hospitals for asthma are provided guideline-recommended treatment, specifically use of systemic corticosteroids, to gain control of bronchiole inflammation and therefore reduce morbidity and mortality related to asthma.

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

Clinical Practice Guideline, Other, Systematic review of body of evidence (other than within guideline development)  
 Individual studies

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

This measure is consistent with the guidelines recommended by the American Academy of Pediatrics and the National Heart Lung and Blood Institute. The central topic of the evidence is to describe the role of corticosteroid therapy used in the treatment of children with uncontrolled asthmatic symptoms, consistent with the definition of acute asthma for this measure.

The focus of both the evidence and the measure in discussion is the use of controller medications, or specifically corticosteroid therapy, systemic with oral, IV or IM route, for uncontrolled asthma in children. Both the evidence and the measure support the use of corticosteroid therapy.

**1c.5 Quantity of Studies in the Body of Evidence** (*Total number of studies, not articles*): All studies comprise the pediatric population. Of a total of 5 nonrandomized control trials, 2 (40%) addressed the use of systemic corticosteroid therapy. Of 29 randomized control trials 27 (93%) addressed the used of systemic corticosteroid therapy.

**Non Randomized Control Trials**

- |     |  |
|-----|--|
| QTY | Subject of the Study   |
| 1   | Racial Disparities and use of preventative medicine for asthma |
| 1   | Use of Exhaled Nitric Oxide                                    |
| 2   | Use of Systemic corticosteroid therapy                         |
| 1   | Non use of Systemic Corticosteroids                            |

**Randomized Control Trial**

QTY	Subject of the Study
1	Racial/Ethnic Disparities
27	Use of Systemic corticosteroid therapy
1	Asthma Care in US ED

**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 is a documented trend in the decreasing rate of relapse within one to three months in patients who received steroid therapy (Rowe et al. 2007). All studies reviewed in the Cochrane review with differing types of steroid therapy ie: oral prednisolone, intravenous methylprednisone and intravenous hydrocortisone have approximately the same benefits. This includes earlier discharge and improving symptom scores.

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. Some data were sparse in terms of measurement of relief of symptoms, and results were not generalizable to all pediatric populations.

All studies reviewed were exclusive to 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*): Length of stay was evaluated against the use of corticosteroid therapy, as well as reported relief of symptoms or FEV rates in most studies. Hours of hospitalization were found to be less in children who received steroid therapy. Percentages of children receiving corticosteroid therapy and qualified for early discharge from the emergency room were also reviewed. Children who were given corticosteroid therapy during asthmatic exacerbation were more likely to be discharged rapidly, further supporting the improvement in asthmatic symptoms when systemic corticosteroids are used (Iqbal et al., 2008). Relief of uncontrolled symptoms was noted in all studies reviewed. Measurement of relief of symptoms was specific to each study, some by pulmonary function exam, or pulse oximetry, and others by reported symptoms. Dose modification for the examined population and the severity of symptoms upon presentation was also varied for most studies reviewed. 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*):

The net benefit examined with the use of systemic corticosteroids has the potential to decrease asthmatic symptoms as noted above. The improvement of reported symptoms and peak flow levels further reduces inpatient hours, thus improving overall asthma care in the pediatric population.

Use of corticosteroids in any population does not come without discussion of possible harm. Suppression of immune response has been documented to occur even with varied doses. Upon historical documentation, there was a reported increase in disease or co morbidity of diseases such as: varicella, hepatitis and pneumonitis, with the consistent use of corticosteroid therapy in steroid dependent asthmatic children (Kasper and Howe, 1990).

**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:** **A**



**1c.14 Summary of Controversy/Contradictory Evidence:** Dosage of drugs, routes of administration and length of therapy are all considerations in the literature reviewed. Historically, there was a reported increase in disease or co morbidity of diseases such as: varicella, hepatitis and pneumonitis, with the consistent use of corticosteroid therapy in steroid dependent asthmatic children as noted above (Kasper and Howe, 1990).

Conclusions from years of evaluation of guidelines provided control of steroid dosages, and compliance with mandatory follow up visits and parental education. These efforts will reduce the risks to even those children that do develop comorbid conditions while receiving steroid therapy. Proper dosage control can reduce the risk of mortality from a compromised immune system. Risk of fractures in children treated with steroid therapy is also reported to be slightly increased (Van Staa, T, P et al, 2003).

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

Kasper, W.J., and Howe, P.A. (1990). Fatal Vericella after a Single Course of Corticosteroids. *Pediatric Infectious Disease* 1990, vol 9, p 729-732.

an Staa, T.P., Cooper, C., Leufkens, H, and Bishop, N. (2003). Children and the Risk of Fractures Caused by Oral Corticosteroids. *Journal of Bone and Mineral Research*; Vol 18, No. 5, p913-917.

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](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](http://www.aafa.org/display.cfm?id=9&sub=42#_ftn20).

Akinbami, L, J. (2006). Advanced Data from Vital and Health Statistics: The State of Childhood Asthma, United States 1980-2005. *Us Department of Health and Human Services, Center for disease control and prevention National Center for Health Statistics*; No. 381, December 12, 2006.

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.

Castro-Rodriguez, J.A., and Rodrigo, G. (2009). Efficacy of Inhaled Corticosteroids in Infants and Preschools with Recurrent Wheezing and Asthma: A Systematic Review with Metal-analysis. *Pediatrics*, Vol 123, No. 3 Retrieved on November 29, 2011, from <http://www.pediatrics.aapublications.org>.

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>.

Chang, A., Clark, R., Sloots, T., Stone, D., Petsky, H., Thearle, D., Champion, A., Wheeler, C., Acworth, J.(2008). A 5 day versus 3 day course of oral corticosteroids for children with asthma exacerbations who are not hospitalized: a randomized controlled trial. *MJA*, Vol 189, No. 6, P306-310.

Crain, E.F., Weiss, K.B., Fagan, M.J. (1995). Pediatric Asthma Care in US Emergency Departments: Current Practice in the Context of the National Institute of Health guidelines. *Arch Pediatr Adolesc Med.* 1995;149:893-901.

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.

Goodman, A (2009). President Obama's Health Plan and Community-Based Prevention. *American Journal of Public Health*: October 2009, Vol. 99, No. 10, pp. 1736-1738doi: 10.2105/AJPH.2009.174714

Iqbal, S.M., Rowe, B.H., N'Diaye, T. (2008). Corticosteriod for hospitalized children with acute asthma (Review). *The Cochran Collaboration*. Retrieved from <http://www.thecochranelibrary.com>.

Kasper, W.J., and Howe, P.A. (1990). Fatal Vericella after a Single Course of Corticosteroids. *Pediatric Infectious Disease* 1990, vol 9, p 729-732.

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.

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.

Mellon, M., and Parasuraman, B. (2004). Pediatric Athma: Improving Management to Reduce Cost of Care. Journal of Managed Care Pharmacy; vol 10, No.2 p130-140.

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/>.

Panickar, J., Lakhanpaul, M., Lambert, P., Kenia, P., Stephenson, T., Smyth, A., and Grigg, J. (2009). Oral Prednisolone for Preschool Children with Acute Virus-Induced Wheezing. New England Journal of Medicine 2009; 329-338.

Rowe, B.H., Edmonds, M.L., Spooner, C.H., Diner, B., and Camargo, C.A. (2004). Corticosteroid therapy for acute asthma. Elsevier Ltd. Retrieved December 20th, 2011 from doi:10.1016/j.rmed.2003.11.016

Rowe, B.H., Spooner, C., Ducharme, F.M., Bretzlaff, J.A., Bota, G.W.(2001). Early emergency department treatment of acute asthma with systemic corticosteroids. Cochrane Database Systemic Review.

Rowe BH, Spooner C, Ducharme F, Bretzlaff J, Bota G. (2007). Corticosteroids for preventing relapse following acute exacerbations of asthma. Cochrane Database of Systematic Reviews 2007, Issue 3. Art. No.: CD000195. DOI: 10.1002/14651858.CD000195.pub2.

Rachelefsky, G.(2003). Treating Exacerbations of Asthma in Children: The Role of Systemic Corticosteroids. Pediatrics 2003; 112:382-397.

Schuh, S., Reisman, J., Alshehri, M., Dupuis, A., Corey, M., Arseneault, R., Allothman, G., Tennis, O., Canny, G. (2000). A Comparison of Inhaled Fluticasone and Oral Prednisone for Children with Severe Acute Asthma. New England Journal of Medicine; vol 343 No. 10 p 689-694.

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.

Smith, A.D., Cowan, J.O., Brassett, K.P., Herbison, P., Taylor, R. (2005). Use of exhaled nitric oxide measurements to guide treatment in chronic asthma. The New England Journal of Medicine, Vol 352, No. 21, p2163-2173.

Solis-Cohen, S (1900). The use of adrenal substance in the treatment of asthma. JAMA.34:1164.

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.

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.

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

- Systemic corticosteroids: Although not short acting, oral systemic corticosteroids are used for moderate and severe exacerbations as adjunct to SABAs to speed recovery and prevent recurrence of exacerbations (Evidence A). Section 3, Page 214.

- Corticosteroids: Block late-phase reaction to allergen, reduce airway hyperresponsiveness, and inhibit inflammatory cell migration and activation. They are the most potent and effective anti-inflammatory medication currently available (Evidence A). Section 3, page 213.

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](http://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: **A**

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

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

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

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

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

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

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

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

S.2 If yes, provide web page URL:

[http://www.jointcommission.org/specifications\\_manual\\_for\\_national\\_hospital\\_inpatient\\_quality\\_measures/](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 who received systemic corticosteroids during hospitalization.

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*):

One data element is used to calculate the numerator:

Systemic Corticosteroids Administered. This data element is defined as: Documentation that the patient received oral, IM, or intravenous (systemic) corticosteroids for asthma exacerbation during this inpatient hospitalization. Inpatient hospitalization includes the time from arrival to the emergency department (ED) or observation area until discharge from the inpatient setting.

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

Pediatric asthma inpatients (age 2 years through 17 years) who were 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's Health

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 used to calculate the denominator:

- Admission Date

The month, day, and year of admission to acute inpatient care.

- Birthdate

The month, day, and year the patient was born.

- Clinical Trial

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.

- Reason for Not Administering Systemic Corticosteroids

Reasons for not administering Systemic Corticosteroids during this hospitalization:

o Allergy to Systemic Corticosteroids

o Other reasons documented by physician/APN/PA or pharmacist

- Discharge Date

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

Populations: Discharges with:

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 ASTHMA  
 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
- Patients with a documented Reason for Not Administering Systemic Corticosteroids

**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.
- Reason for Not Administering Systemic Corticosteroids: Acceptable reasons include allergy to systemic corticosteroids, oral, IM, or intravenous (systemic) corticosteroids were administered to the patient within 24 hours prior to arrival AND patient was not a candidate to receive an additional dose during this hospitalization, or other reasons documented by physician/APN/PA or pharmacist

**2a1.10 Stratification Details/Variables** *(All information required to stratify the measure results including the stratification variables, codes with descriptors, definitions, and/or specific data collection items/responses):*

This measure is stratified by age as noted in the following table:

CAC-2a Systemic Corticosteroids for Inpatient Asthma (age 2 years through 17 years) - Overall Rate  
 CAC-2b Systemic Corticosteroids for Inpatient Asthma (age 2 years through 4 years)  
 CAC-2c Systemic Corticosteroids for Inpatient Asthma (age 5 years through 12 years)  
 CAC-2d Systemic Corticosteroids for Inpatient Asthma (age 13 years through 17 years)

**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. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - 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. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - c. If Clinical Trial equals No, continue processing and proceed to Systemic Corticosteroids Administered.
3. Check Systemic Corticosteroids Administered
  - a. If Systemic Corticosteroids Administered is missing, the case will proceed to a Measure Category Assignment of X for Overall Rate (CAC-2a) and will be rejected. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - b. If Systemic Corticosteroids Administered equals Yes, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - c. If Systemic Corticosteroids Administered equals No, continue processing and proceed to Reason for Not Administering Systemic Corticosteroids.
4. Check Reason for Not Administering Systemic Corticosteroids
  - a. If Reason for Not Administering Systemic Corticosteroids is missing, the case will proceed to a Measure Category Assignment of X for Overall Rate (CAC-2a) and will be rejected. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - b. If Reason for Not Administering Systemic Corticosteroids equals Yes, the case will proceed to a Measure Category Assignment of B for Overall Rate (CAC-2a) and will not be in the measure population. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - c. If Reason for Not Administering Systemic Corticosteroids equals No, the case will proceed to a Measure Category Assignment of D for Overall Rate (CAC-2a) and will be in the Measure Population. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
5. Continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for all Strata Measure to equal 'B.' Do not change the Measure Category Assignment that was already calculated for the overall rate CAC-2a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate's (CAC-2a) Measure Category Assignment.
6. Check Overall Rate Category Assignment
  - a. If the Overall Rate Category Assignment is equal to B or X, keep Measure Category Assignment for the strata measures equal B, not in the Measure Population. Stop processing.



b. If the Overall Rate Category Assignment is equal to D or E, continue processing and check the Patient Age. Note: The Patient Age is calculated from Admission Date minus Birthdate as part of the ICD Population logic.

7. Check The Patient Age

a. If the Patient Age is greater than or equal to 2 years and less than 5 years for Stratified Measure CAC-2b, set the Measure Category Assignment for measure CAC-2b to equal the Measure Category Assignment for measure CAC-2a. Stop processing.

b. If the Patient Age is greater than or equal to 5 years and less than 13 years for Stratified Measure CAC-2c, set the Measure Category Assignment for measure CAC-2c to equal the Measure Category Assignment for measure CAC-2a. Stop processing.

c. If the Patient Age is greater than or equal to 13 years and less than 18 years for Stratified Measure CAC-2d, set the Measure Category Assignment for measure CAC-2d to equal the Measure Category Assignment for measure CAC-2a. Stop processing.

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

Attachment

2zn\_CAC2[1].doc

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. Hospitals whose Initial Patient Population size is less than the minimum number of cases per quarter/month for the stratum cannot sample that stratum.

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 Sampling

Hospitals selecting sample cases for this measure must ensure that each individual stratum's population and quarterly sample size meets the following conditions:

Select within each of the three individual measure strata. Cases are placed into the appropriate stratum based upon the patient's age.

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 Sampling

Hospitals selecting sample cases for this set must ensure that each individual stratum population and monthly sample size meets the following conditions:

Select within each of the three individual measure strata. Cases are placed into the appropriate stratum based upon the patient's

age.

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 Clinical Data, Electronic Clinical Data : Electronic Health Record, 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.pdf

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

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

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 is 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, extensive tests of measure reliability were conducted. Pilot testing of this measure was conducted in 2005. It consisted of a five month data collection period using both concurrent and retrospective approaches with data transmission. 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 as outlined 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 %100 in the data elements used to calculate the measure rate for CAC-2. This reflects the findings of 87 hospitals comprising of 2,292 records.

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

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

This measure focuses on the process the hospital uses to ensure the treatment regimen of controller therapy used to reduce bronchial inflammation in the inpatient hospitalized pediatric patient. The literature supports the use of controller therapy listed on Appendix C, Table 6.3. 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 treatment, recommended by the National Heart Lung and Blood Institute, is consistently followed in the treatment of their inpatient population. Reporting children's asthma care measures also enables hospitals that do not generally treat adult patients to report quality data on Hospital Compare.

**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 measure has been in national use since the 2nd quarter of 2007. Demographics of organizations collecting and reporting data on these measures is 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 17 questions were specific to the CAC-2 measure. Predominant themes of the submitted questions consisted of data element clarifications, specifically to the data element: Reason for Not Administering Systemic Corticosteroids. Other questions included review of types and names of steroids received, indications of therapy, and route clarifications.

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.

**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 measure has been in national use since the 2nd quarter of 2007. Demographics of organizations collecting and reporting data on these measures is 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 the role it is anticipated to play in the determination of value based purchasing incentives, this is especially troubling to measure users. This concern is the basis for a number of 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 = CAC-2a,2b,2c,2d =0%
- Patients enrolled in clinical trials= CAC-2a,2b,2c,2d= 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 is 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 HCOs' 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 meaningfully differences in performance*):

2007 Aggregate Data:

Scores on this measure: N=157 Mean 0.98095 , SD 0.05979

10th Percentile=0.96154

25th Percentile= 0.98673

50th Percentile= 1.00

75th Percentile= 1.00

90th Percentile= 1.00

2008 Aggregate Data:

Scores on this measure: N=232 Mean 0.98296 , SD 0.04894

10th Percentile= 0.95652

25th Percentile= 0.98765

50th Percentile= 1.0

75th Percentile= 1.0

90th Percentile= 1.0

2009 Aggregate Data:  
 Scores on this measure: N=217  
 Mean =0. 98821, SD= 0.07029  
 10th Percentile= 0.98072  
 25th Percentile= 0.99556  
 50th Percentile= 1.0  
 75th Percentile= 1.0  
 90th Percentile= 1.0

2010 Aggregate Data:  
 Scores on this measure: N= 212  
 Mean 0.98761=, SD= 0.07828  
 10th Percentile= 0.98413  
 25th Percentile= 0.99754  
 50th Percentile= 1.0  
 75th Percentile= 1.0  
 90th Percentile= 1.0

2011  
 Scores on this measure: N=201  
 Mean =0.99512, SD= 0.01502  
 10th Percentile= 0.98529  
 25th Percentile= 1.0  
 50th Percentile= 1.0  
 75th Percentile= 1.0  
 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.



2.1-2.3 Supplemental Testing Methodology Information:

Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met?

(Reliability and Validity must be rated moderate or high) Yes  No

Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

### 3. USABILITY

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

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

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](http://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-2 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/](http://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: \[http://www.jointcommission.org/facts\\\_about\\\_oryx\\\_for\\\_hospitals/\]\(http://www.jointcommission.org/facts\_about\_oryx\_for\_hospitals/\). 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 Data elements such as admission date or discharge date may be generated by administrative data.

**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.

Based upon input from the measure users, the Measure Information Form was updated. The Numerator-Included Populations was restated to clarify the time frame for administration of systemic corticosteroids.

The former data element Contraindications to Systemic Corticosteroids was changed to: Reasons for not Administering Systemic Corticosteroids. This was done as part of the greater initiative to address "contraindication" data elements across other measure sets in the aligned Specifications Manual for National Hospital Quality Measures. As part of this process, the updated data element was revised to provide additional clarity for data abstraction based upon input from the measure users.

It was reported that a number of cases were failing this measure because there were circumstances in which a patient might receive a systemic corticosteroid prior to arrival to the hospital. If the subsequent inpatient hospitalization was of short duration the patient might not require the drug within the time frame of the hospitalization. In order to prevent cases from failing because the drug had been appropriately held during the hospitalization and to prevent the potential for an unintended consequence of a patient receiving the drug more than needed, the following bullet was added to the definition of the data element Reasons for not Administering Systemic Corticosteroids: Oral or intravenous (systemic) corticosteroids were administered to the patient within 24 hours prior to arrival AND patient was not a candidate to receive an additional dose during this hospitalization.

Systemic Corticosteroids Administered: This data element originally specified oral and IV systemic corticosteroids. Measure users questioned why this did not include the IM route. The data element was updated to include the IM route in order to prevent cases from failing if IM systemic corticosteroids were administered.

The medication table for systemic corticosteroids is reviewed with every specifications manual publication. The table is updated via consultation with a PharmD member of the asthma advisory panel to insure that the most current list of systemic corticosteroids 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

0036 : Use of appropriate medications for people with asthma

0047 : Asthma: Pharmacologic Therapy for Persistent Asthma

0283 : Adult asthma (PQI 15)

0548 : Suboptimal Asthma Control (SAC) and Absence of Controller Therapy (ACT)

### 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 Joint Commission measures in the Children's Asthma Care measure set specifically focus on acute asthma care for the inpatient pediatric population, targeting children ages 2 – 17. None of the above measures apply to the inpatient pediatric population, the above measures focus on ambulatory care. The population of the above measures is variable, ranging in the following targeted age groups: 5 – 40, 5 - 56, 18 and older, 5 - 50.

### 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*):

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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? 07, 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.

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

**NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE****Measure Information Form  
Collected For: The Joint Commission Only****Measure Set:** Children's Asthma Care (CAC)**Set Measure ID#:** CAC-2

<b>Set Measure ID #</b>	<b>Performance Measure Name</b>
<b>CAC-2a</b>	Systemic Corticosteroids for Inpatient Asthma (age 2 years <b>through</b> 17 years) -Overall Rate
<b>CAC-2b</b>	Systemic Corticosteroids for Inpatient Asthma (age 2 years <b>through</b> 4 years)
<b>CAC-2c</b>	Systemic Corticosteroids for Inpatient Asthma (age 5 years <b>through</b> 12 years)
<b>CAC-2d</b>	Systemic Corticosteroids for Inpatient Asthma (age 13 years <b>through</b> 17 years)

**Performance Measure Name:** Systemic corticosteroids for inpatient asthma**Description:** Use of systemic corticosteroids in pediatric patients admitted for inpatient treatment of asthma.

**Rationale:** 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). For children, asthma is one of the most frequent reasons for admission to hospitals (McCormick, et al., 1999). Silber, et al, (2003) noted that there are approximately 200,000 admissions for childhood asthma in the United States annually, representing more than \$3 billion dollars in healthcare costs. Under-treatment and/or inappropriate treatment of asthma are recognized as major contributors to asthma morbidity and mortality. Guidelines for the diagnosis and management of asthma in children developed by the National Asthma Education and Prevention Program (NAEPP) of the National Heart, Lung and Blood Institute (NHLBI), as well as by the American Academy of Pediatrics, recommend the use of systemic corticosteroids to gain control of acute asthma exacerbation and reduce severity as quickly as possible in children with mild, moderate and severe persistent asthma. However, there is evidence that these guidelines are not followed uniformly. For example, Crain, et al. (1995) found that fewer than half of respondents to a survey of hospital emergency departments had heard of the NHLBI guidelines and that there was considerable variation in use of systemic corticosteroids in relation to the guidelines. Administration of appropriate medication therapy is under the direct control of the care provider.

**Type of Measure:** Process

**Improvement Noted As:** An increase in the rate

**Numerator Statement:** Pediatric asthma inpatients who received systemic corticosteroids during hospitalization.

**Included Populations:**

Patients who were administered systemic corticosteroids during this hospitalization.

**Excluded Populations:** None

**Data Elements:**

*Systemic Corticosteroids Administered*

**Denominator Statement:** Pediatric asthma inpatients (age 2 years through 17 years) who were discharged with a principal diagnosis of asthma.

**Included Populations:** Discharges with:

- An *ICD-9-CM Principal Diagnosis Code* of asthma (as defined in Appendix A, Table 6.1)
- An age of 2 through 17 years

**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
- Patients with a documented *Reason for Not Administering Systemic Corticosteroids*

**Data Elements:**

- *Admission Date*
- *Birthdate*
- *Clinical Trials*
- *Reason for Not Administering Systemic Corticosteroids*
- *Discharge Date*
- *ICD-9-CM Principal Diagnosis Code*

**Risk Adjustment:** No

**Data Collection Approach:** Retrospective, data sources for required data elements include administrative data and medical records.

**Data Accuracy:** Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.

**Measure Analysis Suggestions:** Based on these data, healthcare organizations would be able to determine the overall percentage of pediatric asthma inpatients that do not receive appropriate systemic corticosteroid treatment. This measure provides opportunity to assess differences, if any, in treatment modality for the different age groups.

**Sampling:** Yes, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Section.

**Data Reported As:** Aggregate rate generated from count data reported as a proportion.

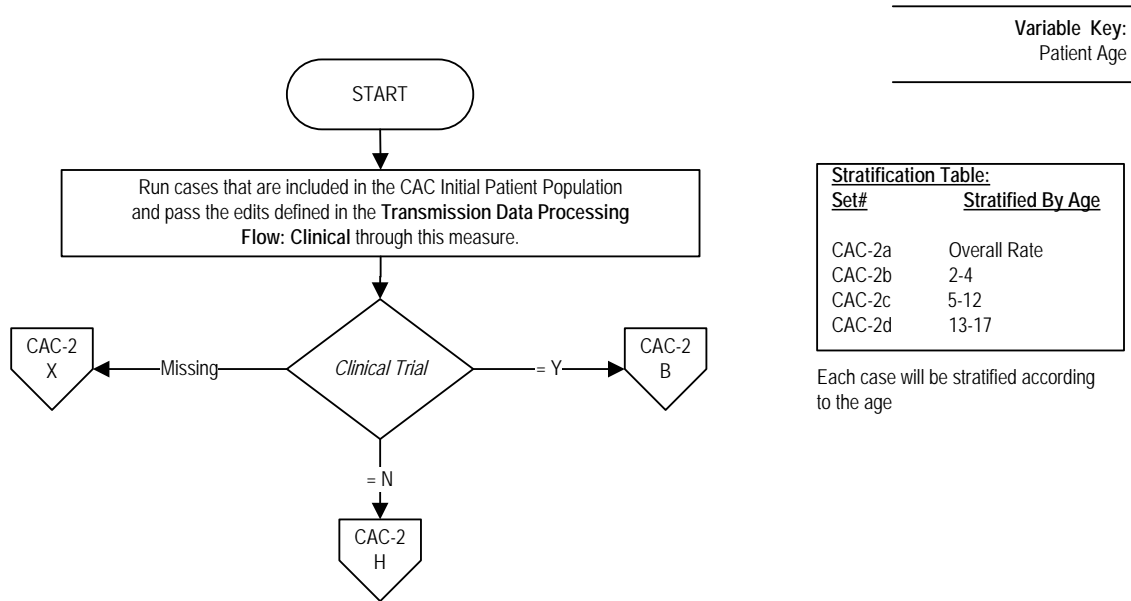
**Selected References:**

- Adams RJ, Fuhlbrigge A, Finkelstein JA, Lozano P, Livingston JM, Weiss KB, and Weiss ST (2001). Use of Inhaled Anti-inflammatory Medication in Children with Asthma in Managed Care Settings. *Archives of Pediatrics and Adolescent Medicine*, 155, 501-507.
- Asthma Management Model System, <http://www.nhlbi.nih.gov>
- Carroll W., Lenney W, Drug therapy in the management of acute asthma. *Arch Dis Child Educ Pract Ed* 2007; 92:ep82-ep86.
- Clinical Practice Guidelines of the American Academy of Pediatrics: A Compendium of Evidence-Based Research for Pediatric Practice. American Academy of Pediatrics, 1999.
- Crain EF, Weiss KB and Fagan MJ (1995). Pediatric Asthma Care in U.S. Emergency Departments. *Archives of Pediatric and Adolescent Medicine*. 149, 893-901.
- Fiel SB, Vincken W. Systemic corticosteroid therapy for acute asthma exacerbations. *Asthma. J Asthma*. 2006 Jun-Jul;43(5):321-31.
- McCormick MC, 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 Asthma Education and Prevention Program, <http://www.nhlbi.nih.gov>
- National Institutes of Health, National Heart, Lung, and Blood Institute. National Asthma Education and Prevention Program. Expert panel report 3: guidelines for the diagnosis and management of asthma, National Institutes of Health, Bethesda (2007) NIH publication no. 07-4051.
- Schramm CM, Carroll CL. Advances in treating acute asthma exacerbations in children. *Curr Opin Pediatr*. 2009 Jun;21(3):326-32.
- Silber JH, Rosenbaum PR, Even-Shoshan O, Shabbout M, Zhang X, Bradlow ET, and Marsh RR (2003). Length of Stay, Conditional Length of Stay, and Prolonged Stay in Pediatric Asthma. *Health Services Research*, 38: 3, 867-886.
- Stanley J. Szeffler MD, Advances in pediatric asthma in 2009: Gaining control of childhood asthma. *Journal of Allergy and Clinical Immunology* Volume 125, Issue 1, January 2010, Pages 69-78
- Tsai CL, Rowe BH, Sullivan AF, Camargo CA Jr. Factors associated with delayed use or nonuse of systemic corticosteroids in emergency department patients with acute asthma. *Ann Allergy Asthma Immunol*. 2009 Oct;103(4):318-24.

## CAC-2: Systemic Corticosteroids for Inpatient Asthma by AAP Age Groups.

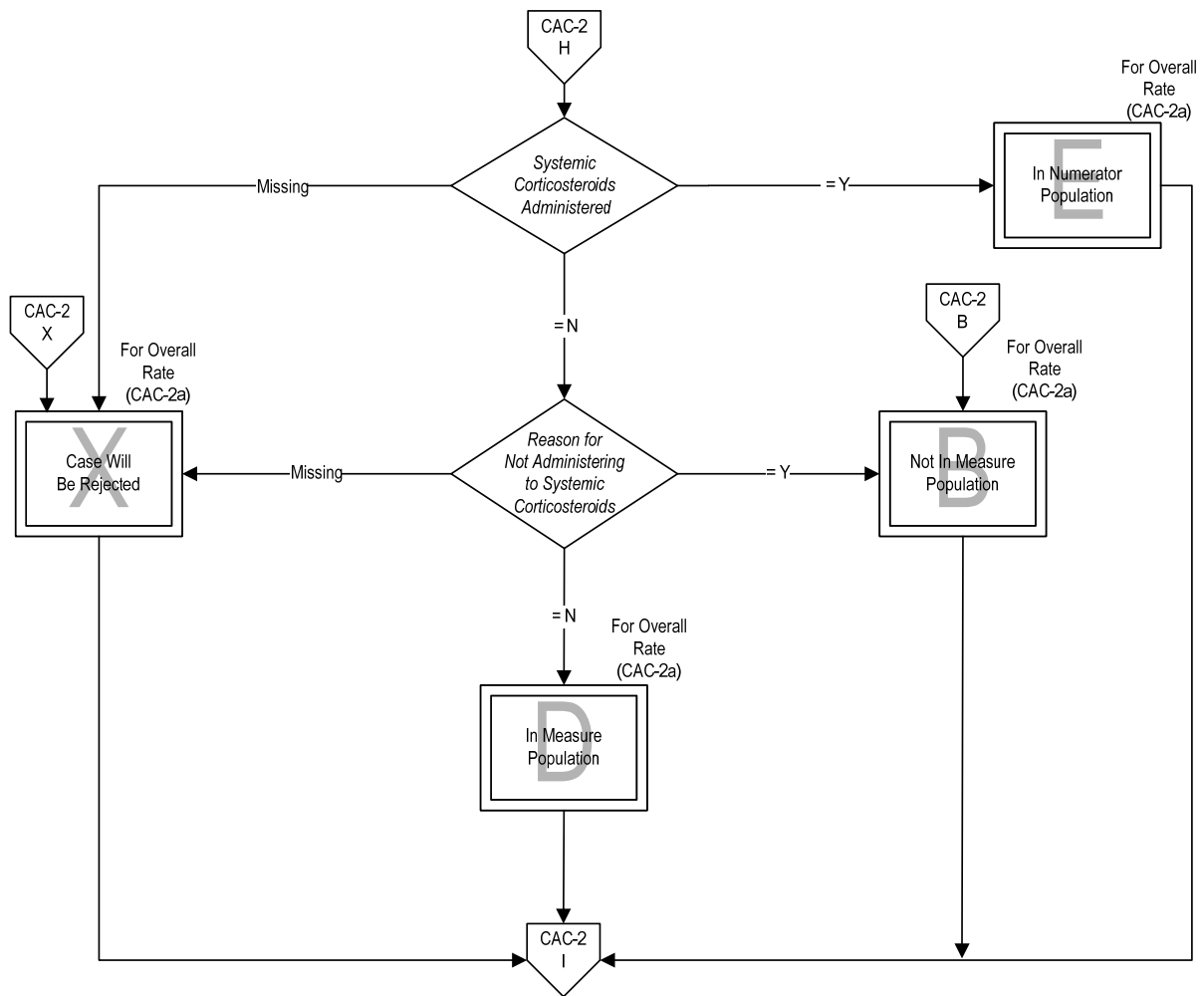
**Numerator:** Pediatric asthma inpatients who received systemic corticosteroids during hospitalization

**Denominator:** Pediatric asthma inpatients (age 2 years through 17 years) who were discharged with a principal diagnosis of asthma

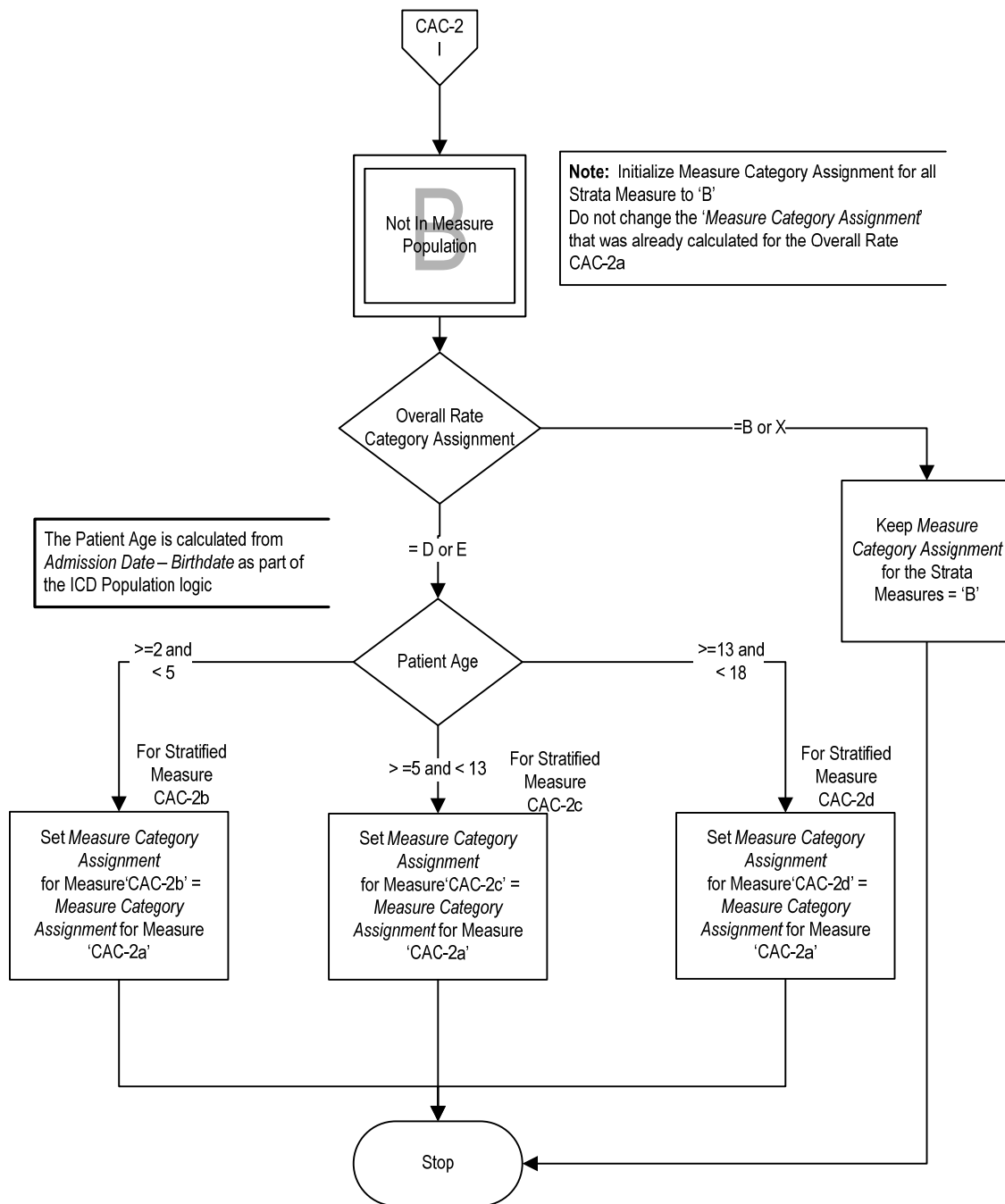


Stratification Table:	
Set#	Stratified By Age
CAC-2a	Overall Rate
CAC-2b	2-4
CAC-2c	5-12
CAC-2d	13-17

Each case will be stratified according to the age







## Children’s Asthma Care-2: Systemic Corticosteroids For Inpatient Asthma

**Numerator:** Pediatric asthma inpatients who received systemic corticosteroids during hospitalization.

**Denominator:** Pediatric asthma inpatients (age 2 years through 17 years) who were discharged with a principal diagnosis of asthma.

**Variable Key:** Patient Age

### Stratification Table

The Stratification Table includes the Set Number, Stratified By, and the Age Strata (Allowable Value). The Age Strata refers to Patient Age which is calculated by the data element Admission Date minus the data element Birthdate. Each case will be stratified according to the patient age, after the Category Assignments are completed and the overall rate is calculated.

Set Number	Stratified By	Age Strata
CAC-2a	Overall Rate	No allowable value exists for the overall rate. It includes all patients greater than or equal to 2 years and less than 18 years.
CAC-2b	Age 2 years through 4 years	A Patient Age ( <i>Admission Date</i> minus <i>Birthdate</i> ) greater than or equal to 2 years and less than 5 years.
CAC-2c	Age 5 years through 12 years	A Patient Age ( <i>Admission Date</i> minus <i>Birthdate</i> ) greater than or equal to 5 years and less than 13 years.
CAC-2d	Age 13 years through 17 years	A Patient Age ( <i>Admission Date</i> minus <i>Birthdate</i> ) greater than or equal to 13 years and less than 18 years.

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. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - 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. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - c. If Clinical Trial equals No, continue processing and proceed to Systemic Corticosteroids Administered.

3. Check Systemic Corticosteroids Administered
  - a. If Systemic Corticosteroids Administered is missing, the case will proceed to a Measure Category Assignment of X for Overall Rate (CAC-2a) and will be rejected. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - b. If Systemic Corticosteroids Administered equals Yes, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - c. If Systemic Corticosteroids Administered equals No, continue processing and proceed to Reason for Not Administering Systemic Corticosteroids.
  
4. Check Reason for Not Administering Systemic Corticosteroids
  - a. If Reason for Not Administering Systemic Corticosteroids is missing, the case will proceed to a Measure Category Assignment of X for Overall Rate (CAC-2a) and will be rejected. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - b. If Reason for Not Administering Systemic Corticosteroids equals Yes, the case will proceed to a Measure Category Assignment of B for Overall Rate (CAC-2a) and will not be in the measure population. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  - c. If Reason for Not Administering Systemic Corticosteroids equals No, the case will proceed to a Measure Category Assignment of D for Overall Rate (CAC-2a) and will be in the Measure Population. Proceed to step 5 and check the Stratified Measures for Overall Rate (CAC-2a).
  
5. Continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for all Strata Measure to equal 'B.' Do not change the Measure Category Assignment that was already calculated for the overall rate (CAC-2a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate's (CAC-2a) Measure Category Assignment.
  
6. Check Overall Rate Category Assignment
  - a. If the Overall Rate Category Assignment is equal to B or X, keep Measure Category Assignment for the strata measures equal B, not in the Measure Population. Stop processing.
  - b. If the Overall Rate Category Assignment is equal to D or E, continue processing and check the Patient Age. Note: The Patient Age is calculated from Admission Date minus Birthdate as part of the ICD Population logic.
  
7. Check The Patient Age
  - a. If the Patient Age is greater than or equal to 2 years and less than 5 years for Stratified Measure CAC-2b, set the Measure Category Assignment for measure CAC-2b to equal the Measure Category Assignment for measure CAC-2a. Stop processing.
  - b. If the Patient Age is greater than or equal to 5 years and less than 13 years for Stratified Measure CAC-2c, set the Measure Category

- Assignment for measure CAC-2c to equal the Measure Category  
Assignment for measure CAC-2a. Stop processing.
- c. If the Patient Age is greater than or equal to 13 years and less than 18  
years for Stratified Measure CAC-2d, set the Measure Category  
Assignment for measure CAC-2d to equal the Measure Category  
Assignment for measure CAC-2a. Stop processing.

## Alphabetical Data Dictionary

Note: For ease of review, this document includes the specific data elements collected for the Children’s Asthma Care performance measure set. These data elements are as specified in the Data Dictionary found in the 4.0 version of the Specifications Manual for National Hospital Inpatient Quality Measures. The 4.0 version of the manual applies to discharges effective January 1, 2012.

The data elements denoted to be collected for “all records” are general data elements collected by hospitals and submitted for every patient that falls into any of the selected Initial Patient Populations.

<b>Element Name</b>	<b>Page #</b>	<b>Collected For:</b>
<i>Admission Date</i>	1-3	All Records
<i>Birthdate</i>	1-5	All Records
<i>Clinical Trial</i>	1-6	CAC-1, 2, 3
<i>Discharge Date</i>	1-9	All Records
<i>Discharge Disposition</i>	1-10	CAC-3
<i>Home Management Plan of Care Document Addresses Arrangements for Follow-up Care</i>	1-13	CAC-3
<i>Home Management Plan of Care Document Addresses Environmental Control and Control of Other Triggers</i>	1-15	CAC-3
<i>Home Management Plan of Care Document Addresses Methods and Timing of Rescue Actions</i>	1-17	CAC-3
<i>Home Management Plan of Care Document Addresses Use of Controllers</i>	1-19	CAC-3
<i>Home Management Plan of Care Document Addresses Use of Relievers</i>	1-21	CAC-3
<i>Home Management Plan of Care Document Given to Patient/Caregiver</i>	1-23	CAC-3
<i>Home Management Plan of Care Document Present</i>	1-25	CAC-3
<i>ICD-9-CM Other Diagnosis Codes</i>	1-26	All Records
<i>ICD-9-CM Other Procedure Codes</i>	1-27	All Records
<i>ICD-9-CM Other Procedure Dates</i>	1-28	All Records
<i>ICD-9-CM Principal Diagnosis Code</i>	1-30	All Records
<i>ICD-9-CM Principal Procedure Code</i>	1-31	All Records
<i>ICD-9-CM Principal Procedure Date</i>	1-32	All Records
<i>Payment Source</i>	1-34	All Records
<i>Reason for Not Administering Relievers</i>	1-35	CAC-1

<b>Element Name</b>	<b>Page #</b>	<b>Collected For:</b>
<i>Reason for Not Administering Systemic Corticosteroids</i>	1-37	CAC-2
<i>Relievers Administered</i>	1-39	CAC-1
<i>Sex</i>	1-41	All Records
<i>Systemic Corticosteroids Administered</i>	1-42	CAC-2



**Data Element Name:** *Admission Date*

**Collected For: CMS/The Joint Commission:** All Records

**Definition:** The month, day, and year of admission to acute inpatient care.

**Suggested Data Collection Question:** What is the date the patient was admitted to acute inpatient care?

**Format:**

**Length:** 10 – MM-DD-YYYY (includes dashes)

**Type:** Date

**Occurs:** 1

**Allowable Values:**

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (2001-Current Year)

**Notes for Abstraction:**

- The intent of this data element is to determine the date that the patient was actually admitted to acute inpatient care. Because this data element is critical in determining the population for all measures, the abstractor should NOT assume that the claim information for the admission date is correct. If the abstractor determines through chart review that the date from billing is incorrect, for purposes of abstraction, she/he should correct and override the downloaded value.
- For patients who are admitted to Observation status and subsequently admitted to acute inpatient care, abstract the date that the determination was made to admit to acute inpatient care and the order was written. Do not abstract the date that the patient was admitted to Observation.  
Example:
  - Medical record documentation reflects that the patient was admitted to observation on 04-05-20xx. On 04-06-20xx the physician writes an order to admit to acute inpatient effective 04-05-20xx. The *Admission Date* would be abstracted as 04-06-20xx; the date the determination was made to admit to acute inpatient care and the order was written.
- If there are multiple inpatient orders, use the order that most accurately reflects the date that the patient was admitted. The admission date should not be abstracted from the earliest admission order without regards to substantiating documentation. If documentation suggests that the earliest admission order does not reflect the date the patient was admitted to inpatient care, this date should not be used.

Example:

Preoperative Orders are dated as 04-06-20xx with an order to admit to Inpatient. Postoperative Orders, dated 05-01-20xx, state to admit to acute inpatient. All other documentation supports that the patient presented to the hospital for surgery on 05-01-20xx. The admission date would be abstracted as 05-01-20xx.

**Suggested Data Sources:**

**ONLY ALLOWABLE SOURCES**

1. Physician orders
2. Face Sheet
3. UB-04, Field Location: 12

**Excluded Data Sources**

UB-04, Field Location: 06

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

- Admit to observation
- Arrival date

**Data Element Name:** *Birthdate*

**Collected For: CMS/The Joint Commission:** All Records

**Definition:** The month, day, and year the patient was born.

**Note:** Patient's age (in years) is calculated by *Admission Date* minus *Birthdate*. The algorithm to calculate age must use the month and day portion of admission date and birthdate to yield the most accurate age.

**Suggested Data Collection Question:** What is the patient's date of birth?

**Format:**

**Length:** 10 – MM-DD-YYYY (includes dashes)

**Type:** Date

**Occurs:** 1

**Allowable Values:**

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (1880-Current Year)

**Notes for Abstraction:**

Because this data element is critical in determining the population for all measures, the abstractor should NOT assume that the claim information for the birthdate is correct. If the abstractor determines through chart review that the date is incorrect, she/he should correct and override the downloaded value. If the abstractor is unable to determine the correct birthdate through chart review, she/he should default to the date of birth on the claim information.

**Suggested Data Sources:**

- Emergency department record
- Face sheet
- Registration form
- UB-04, Field Location: 10

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Clinical Trial*

**Collected For: CMS/Joint Commission:** All AMI Measures, All HF Measures, PN-3a, PN-3b, PN-4, PN-5c, SCIP-Inf-1, SCIP-Inf-2, SCIP-Inf-3, SCIP-Inf-4, SCIP-Inf-6, SCIP-Inf-9, SCIP-Card-2, SCIP-VTE-1, SCIP-VTE-2; **CMS Only:** PN-6; **The Joint Commission Only:** All CAC, PN-5, PN-6a, PN-6b, All STK Measures, All VTE Measures

**Definition:** 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 (i.e. AMI, CAC, HF, PN, SCIP, STK, VTE).

**Suggested Data Collection Question:** During this hospital stay, was the patient enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e. AMI, CAC, HF, PN, SCIP, STK, VTE)?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes) There is 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 (i.e. AMI, CAC, HF, PN, SCIP, STK, VTE).

N (No) There is no 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 (i.e. AMI, CAC, HF, PN, SCIP, STK, VTE), or unable to determine from medical record documentation.

**Notes for Abstraction:**

- To select “Yes” to this data element, BOTH of the following must be true:
  1. **There must be a signed consent form for clinical trial.** For the purposes of abstraction, a clinical trial is defined as an **experimental study** in which research subjects are recruited and assigned a treatment/intervention and their outcomes are measured based on the intervention received. Treatments/interventions most often include use of drugs, surgical procedures, and devices. Often a control group is used to compare with the treatment/intervention. Allocation of different interventions to participants is usually randomized.
  2. **There must be documentation on the signed consent form 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 (i.e. AMI, CAC, HF, PN, SCIP, STK, VTE).** Patients may either be newly enrolled in a clinical trial during the hospital stay or enrolled in a clinical trial prior to arrival and continued active participation in that clinical trial during this hospital stay.

- In the following situations, select "No":
  1. **There is a signed patient consent form for an observational study only.** Observational studies are non-experimental and involve no intervention (e.g., registries). Individuals are observed (perhaps with lab draws, interviews, etc.), data is collected, and outcomes are tracked by investigators. Although observational studies may include the assessment of the effects of an intervention, the study participants are not allocated into intervention or control groups.
  2. **It is not clear whether the study described in the signed patient consent form is experimental or observational.**
  3. **It is not clear which study population the clinical trial is enrolling.** Assumptions should not be made if it is not specified.

**AMI:**

Only capture patients enrolled in clinical trials studying patients with acute myocardial infarction (AMI), ST-elevation myocardial infarction (STEMI), Non ST-elevation MI (NSTEMI), heart attack, or acute coronary syndrome (ACS).

**CAC:**

Only capture patients enrolled in clinical trials studying children with asthma.

**HF:**

Only capture patients enrolled in clinical trials studying patients with heart failure (HF).

**PN:**

Only capture patients enrolled in clinical trials studying patients with pneumonia.

**SCIP:**

The clinical trial should be relevant to one or more of the SCIP measures.

Some examples may include but are not limited to:

- The clinical trial involved the use of antibiotics.
- The clinical trial involved testing a new beta-blocker.
- The clinical trial involved the use of VTE prophylaxis.

**STK:**

Only capture patients enrolled in clinical trials studying patients with stroke.

**VTE:**

Only capture patients enrolled in clinical trials studying patients with VTE (prevention or treatment interventions).

**Suggested Data Sources:****ONLY ACCEPTABLE SOURCES**

Signed consent form for clinical trial

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None



**Data Element Name:** *Discharge Date*

**Collected For: CMS/The Joint Commission:** All Records; **Used in Algorithms for: CMS/The Joint Commission:** AMI-1, PN-3a, PN-3b, PN-5c, SCIP-Inf-4, SCIP-VTE-1, SCIP-VTE-2; **CMS Only:** PN-6; **The Joint Commission Only:** PN-5, PN-6a, PN-6b, All SUB Measures, All TOB Measures; **CMS Informational Only:** All SUB Measures, All TOB Measures

**Definition:** The month, day, and year the patient was discharged from acute care, left against medical advice, or expired during this stay.

**Suggested Data Collection Question:** What is the date the patient was discharged from acute care, left against medical advice (AMA), or expired?

**Format:**

**Length:** 10 – MM-DD-YYYY (includes dashes)

**Type:** Date

**Occurs:** 1

**Allowable Values:**

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (2001 – Current Year)

**Notes for Abstraction:**

Because this data element is critical in determining the population for many measures, the abstractor should NOT assume that the claim information for the discharge date is correct. If the abstractor determines through chart review that the date is incorrect, she/he should correct and override the downloaded value. If the abstractor is unable to determine the correct discharge date through chart review, she/he should default to the discharge date on the claim information.

**Suggested Data Sources:**

- Discharge summary
- Face sheet
- Nursing discharge notes
- Physician orders
- Progress notes
- Transfer note
- UB-04, Field Location: 6

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Discharge Disposition*

**Collected For: CMS/The Joint Commission:** AMI-1, AMI-2, AMI-3, AMI-4, AMI-5, AMI-10, All HF Measures, All IMM Measures, PN-3b, PN-4, PN-5c; **The Joint Commission Only:** PN-5, CAC-3, STK-2, STK-3, STK-6, STK-8, STK-10, SUB-3, SUB-4, TOB-3, TOB-4, VTE-3, VTE-4, VTE-5; **CMS Informational Only:** SUB-3, SUB-4, TOB-3, TOB-4

**Definition:** The final place or setting to which the patient was discharged on the day of discharge.

**Suggested Data Collection Question:** What was the patient's discharge disposition on the day of discharge?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

- 1 Home
- 2 Hospice - Home
- 3 Hospice – Health Care Facility
- 4 Acute Care Facility
- 5 Other Health Care Facility
- 6 Expired
- 7 Left Against Medical Advice/AMA
- 8 Not Documented or Unable to Determine (UTD)

**Notes for Abstraction:**

- **Only use documentation from the day of or the day before discharge** when abstracting this data element.  
Example:  
Documentation in the Discharge Planning notes on 04-01-20xx state that the patient will be discharged back home. On 04-06-20xx the physician orders and nursing discharge notes on the day of discharge reflect that the patient was being transferred to skilled care. The documentation from 04-06-20xx would be used to select value "5".

- Consider discharge disposition documentation in the discharge summary or a post-discharge addendum as day of discharge documentation, regardless of when it was dictated/written.
- If documentation is contradictory, use the latest documentation. If there is documentation that further clarifies the level of care that documentation should be used to determine the correct value to abstract.  
Example:  
Nursing discharge note documentation reflects that the patient is being discharged to “XYZ” Hospital. The Social Service notes from the day before discharge further clarify that the patient will be transferred to the rehab unit of “XYZ” Hospital, select value “5”.
- If the medical record states only that the patient is being discharged to another hospital and does not reflect the level of care that the patient will be receiving, select value “4”.
- To select value “7” there must be explicit documentation that the patient left against medical advice.  
Examples:
  - Progress notes state that patient requests to be discharged but that discharge was medically contraindicated at this time. Nursing notes reflect that patient left against medical advice and AMA papers were signed, select value “7”.
  - Physician order written to discharge to home. Nursing notes reflect that patient left before discharge instructions could be given, select value “1”.

**Suggested Data Sources:**

- Discharge instruction sheet
- Discharge planning notes
- Discharge summary
- Nursing discharge notes
- Physician orders
- Progress notes
- Social service notes
- Transfer record

**Excluded Data Sources:**

- Any documentation prior to the day of or day before discharge
- UB-04

**Inclusion Guidelines for Abstraction:**

**For Value 1:**

- Assisted Living Facilities
- Court/Law Enforcement – includes detention facilities, jails, and prison
- Home – includes board and care, foster or residential care, group or personal care homes, and homeless shelters
- Home with Home Health Services

- Outpatient Services including outpatient procedures at another hospital, Outpatient Chemical Dependency Programs and Partial Hospitalization

**For Value 3:**

- Hospice Care - General Inpatient and Respite
- Hospice Care - Residential and Skilled Facilities
- Hospice Care - Other Health Care Facilities (excludes home)

**For Value 4:**

- Acute Short Term General and Critical Access Hospitals
- Cancer and Children's Hospitals
- Department of Defense and Veteran's Administration Hospitals

**For Value 5:**

- Extended or Intermediate Care Facility (ECF/ICF)
- Long Term Acute Care Hospital (LTACH)
- Nursing Home or Facility including Veteran's Administration Nursing Facility
- Psychiatric Hospital or Psychiatric Unit of a Hospital
- Rehabilitation Facility including Inpatient Rehabilitation Facility/Hospital or Rehabilitation Unit of a Hospital
- Skilled Nursing Facility (SNF), Sub-Acute Care or Swing Bed
- Transitional Care Unit (TCU)

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Home Management Plan of Care Document Addresses Arrangements for Follow-up Care*

**Collected For: The Joint Commission Only:** CAC-3

**Definition:** Documentation exists that the Home Management Plan of Care (HMPC) document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, includes information that arrangements for referral or follow-up care with a healthcare provider has been made.

**Suggested Data Collection Question:** Does the HMPC document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, include information that arrangements for referral or follow-up care with a healthcare provider has been made?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

- 1 The HMPC document includes documentation that an appointment for referral or follow-up care with a healthcare provider has been made.
- 2 The HMPC document includes documentation that the patient/caregiver has been given information (healthcare provider/clinic/office name and phone number) to make arrangements for follow-up care.
- 3 Documentation exists that the patient/caregiver refused an appointment/information for referral or follow-up care with a healthcare provider.
- 4 The HMPC document does not include:
  - Documentation that an appointment for referral or follow-up care with a healthcare provider has been made;
  - Documentation that the patient/caregiver has been given information (healthcare provider/clinic/office name and phone number) to make arrangements for follow-up care;
  - OR
  - Unable to determine from the medical record documentation.

**Notes for Abstraction:**

- The healthcare provider could be a primary care physician, an asthma specialist, an advance practice registered nurse (e.g., APN), or a physician assistant (PA) in order to select “1 or 2”.
- Documentation of appointment for referral or follow-up care must include **all** of the following in order to select “1” for the data element:
  - Provider/clinic/office name
  - Date of appointment
  - Time of appointment
- Documentation of information for referral or follow-up care must include **all** of the following in order to select “2” for the data element:
  - Provider/clinic/office name
  - Telephone number
  - Time frame for appointment for follow-up care, e.g., 7-10 days
- If the patient’s home is out of state or out of the country and there is documentation that provider contact information is not accessible to the health care organization, AND there is documentation that the patient/caregiver were given a time frame for appointment for follow-up care, select Allowable Value 2.  
Example:  
Patient lives outside of US, unable to access provider contact information.  
Caregiver instructed to make appointment for follow-up care as soon as possible upon return home.
- The caregiver is defined as the patient’s family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.

**Suggested Data Sources:**

HMPC document

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None



**Data Element Name:** *Home Management Plan of Care Document Addresses Environmental Control and Control of Other Triggers*

**Collected For: The Joint Commission Only:** CAC-3

**Definition:** Documentation exists that the Home Management Plan of Care (HMPC) document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, includes written information on avoidance or mitigation of environmental and other triggers.

**Suggested Data Collection Question:** Does the HMPC document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, include written information on avoidance or mitigation of environmental and other triggers?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes)      The HMPC document includes written information on avoidance or mitigation of environmental and other triggers.

N (No)      The HMPC document does not include written information on avoidance or mitigation of environmental and other triggers or unable to determine from medical record documentation.

**Notes for Abstraction:**

- Specificity to the patient entails explicit information pertaining to the patient, i.e., the patient's specific controllers and relievers medication information (name, dose, frequency, and method of administration), environmental control and control of other triggers, and methods and timing of rescue actions specific to the patient, in order to select "Yes".
- HMPC must be a separate, stand alone document, in order to select "Yes".
- Triggers are things in the environment or life circumstances that could lead to asthma attacks. Triggers could be allergens or irritants. Environmental triggers could be found indoors or outdoors. Indoor locations could be homes, schools, workplace, churches, concert halls, etc.

Examples of environmental triggers:

- Animal dander (from the skin, hair, or feathers of animals)
- Dust mites (contained in house dust)
- Cockroaches
- Pollen from tree and grass
- Mold (indoor and outdoor)
- Cigarette or tobacco smoke

- Air pollutants (dust, house hold cleaners, hair sprays, other chemicals)
  - Cold air or changes in weather
  - Strong emotional expression (including crying or laughing hard)
  - Stress
- Other triggers may include:
- Medications such as aspirin and beta-blockers
  - Sulfites in food (dried fruit) or beverages (wine)
  - Infections and inflammatory conditions (i.e., flu, cold, rhinitis)
  - Gastroesophageal reflux disease that causes heartburn and can worsen asthma symptoms, especially at night
  - Emotional stress
  - Exercise or strenuous activity
- Documentation must clearly convey that the patient was given a copy of the HMPC to take home.
  - The HMPC does NOT need to be given at the time of discharge. A home management plan of care given at anytime during the hospital stay is acceptable.
  - If there is documentation of Triggers (environment or others), select “Yes”.
  - The caregiver is defined as the patient’s family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.

**Suggested Data Sources:**

HMPC document

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Home Management Plan of Care Document Addresses Methods and Timing of Rescue Actions*

**Collected For: The Joint Commission Only:** CAC-3

**Definition:** Documentation exists that the Home Management Plan of Care (HMPC) document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, addresses what to do if asthma symptoms worsen after discharge, i.e., when to take action, what specific steps to take, and contact information to be used, when an asthma attack occurs or is about to occur.

**Suggested Data Collection Question:** Does the HMPC document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, included written information indicating when to take action, what specific steps to take, and contact information to be used, when an asthma attack occurs or is about to occur?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes) The HMPC document includes written information including when to take action, what specific steps to take, and contact information to be used, when an asthma attack occurs or is about to occur.

N (No) The HMPC document does not include written information indicating when to take action, what specific steps to take, and contact information to be used, when an asthma attack occurs or is about to occur or unable to determine from medical record documentation.

**Notes for Abstraction:**

- Specificity to the patient entails explicit information pertaining to the patient, i.e., the patient's specific controllers and relievers medication information (name, dose, frequency, and method of administration), environmental control and control of other triggers, and methods and timing of rescue actions specific to the patient, in order to select "Yes".
- HMPC must be a separate, stand alone document, in order to select "Yes".
- Documentation that addresses methods and timing of rescue actions must include **all** of the following, in order to select "Yes":
  1. When to take action, i.e., assessment of severity (e.g., peak flow meter reading, signs and symptoms to watch for).
  2. Steps to take, i.e., initial treatment instructions (e.g., inhaled relievers up to three treatments of 2-4 puffs by MDI at 20-minute intervals or single nebulizer treatment).

3. Contact information and when to contact the physician.
- Documentation must clearly convey that the patient was given a copy of the HMPC document to take home.
  - The HMPC does NOT need to be given at the time of discharge. A home management plan of care document given at anytime during the hospital stay is acceptable.
  - The caregiver is defined as the patient's family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.

**Suggested Data Sources:**

HMPC document

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Home Management Plan of Care Document Addresses Use of Controllers*

**Collected For: The Joint Commission Only:** CAC-3

**Definition:** Documentation exists that the Home Management Plan of Care (HMPC) document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, includes information on the appropriate use of controllers. This information includes the medication name, dose, frequency, and method of administration, in order to adequately maintain control of asthma.

Controllers are long term asthma medications that reduce airway inflammation and prevent asthma exacerbations (asthma attacks or asthma episodes).

**Suggested Data Collection Question:** Does the HMPC document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, included information on the appropriate use of controllers?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes)      The HMPC document includes information on the appropriate use of controllers.

N (No)      The HMPC document does not include information on the appropriate use of controllers or unable to determine from the medical record documentation.

**Notes for Abstraction:**

- Specificity to the patient entails explicit information pertaining to the patient, i.e., the patient's specific controllers and relievers medication information (name, dose, frequency, and method of administration), environmental control and control of other triggers, and methods and timing of rescue actions specific to the patient, in order to select "Yes".
- HMPC must be a separate, stand alone document, in order to select "Yes".
- If controller medications were prescribed, information must have been given on **all** of the following, in order to select "Yes" to this question:
  - medication name
  - dose
  - frequency
  - method of administration
- "Controller Not Specified (NOS)" can be used to answer "Yes" to this question in the following situations:

- For new controllers that are not yet listed in Table 6.1.
- When there is documentation that a controller was prescribed but unable to identify the name. It must be apparent that the medication is a controller.

Example:

On 2-12-08, the medical record contains the documentation, "Controller prescribed *name illegible, 75mcg (one inhalation)*, BID." (If "Controller prescribed" had not been documented in this example, the medication could not be abstracted as Home Management Plan of Care Document Addresses Use of Controllers.)

- Documentation must clearly convey that the patient/caregiver was given a copy of the HMPC document to take home.
- The HMPC does NOT need to be given at the time of discharge. A HMPC document given at anytime during the hospital stay is acceptable.
- The caregiver is defined as the patient's family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.

**Suggested Data Sources:** HMPC document

**Inclusion Guidelines for Abstraction:**

Refer to Appendix C, Table 6.1 for the comprehensive list of Controller Medications.

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Home Management Plan of Care Document Addresses Use of Relievers*

**Collected For: The Joint Commission Only:** CAC-3

**Definition:** Documentation exists that the Home Management Plan of Care (HMPC) document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, includes written information on the appropriate use of relievers. This information includes 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).

Relievers are medications that relax the bands of muscle surrounding the airways. They are also known as rescue, quick-relief, or short acting medications of choice to quickly relieve asthma exacerbations brought about by bronchoconstriction and exercise-induced bronchospasm.

Relievers do not reduce inflammation of the airways in a person with asthma and are, therefore, not useful for long term control.

**Suggested Data Collection Question:** Does the HMPC document, separate and specific to the patient and provided to the patient/caregiver, prior to or upon discharge, included written information on the appropriate use of relievers?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes)      The HMPC document includes written information on the appropriate use of relievers.

N (No)      The HMPC document does not include written information on the appropriate use of relievers or unable to determine from the medical record documentation.

**Notes for Abstraction:**

- Specificity to the patient entails explicit information pertaining to the patient, i.e., the patient's specific controllers and relievers medication information (name, dose, frequency, and method of administration), environmental control and control of other triggers, and methods and timing of rescue actions specific to the patient, in order to select "Yes".
- HMPC must be a separate, stand alone document, in order to select "Yes".

- If reliever medications were prescribed, information must have been given on **all** of the following, in order to select “Yes” to this question:
  - medication name
  - dose
  - frequency
  - method of administration
  - stepwise method of adjusting the dose and/or frequency, based on severity of symptoms
- “Reliever Not Specified (NOS)” can be used to answer “Yes” to this question in the following situations:
  - For new relievers that are not yet listed in Table 6.2
  - When there is documentation that a reliever was prescribed but unable to identify the name. It must be apparent that the medication is a reliever.  
 Example:  
 On 2-12-08, the medical record contains the documentation, “Reliever prescribed *name illegible*, 2.5 ml, PO, BID.” (If “Reliever prescribed” had not been documented in this example, the medication could not be abstracted as Home Management Plan of Care Document Addresses Use of Relievers.)
- Documentation must clearly convey that the patient/ caregiver was given a copy of the HMPC document to take home.
- The HMPC does NOT need to be given at the time of discharge. A HMPC document given at anytime during the hospital stay is acceptable.
- The caregiver is defined as the patient’s family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.

**Suggested Data Sources:**

HMPC document

**Inclusion Guidelines for Abstraction:**

Refer to Appendix C, Table 6.2 for the comprehensive list of Reliever Medications.

**Exclusion Guidelines for Abstraction:**

None



**Data Element Name:** *Home Management Plan of Care Document Given to Patient/Caregiver*

**Collected For: The Joint Commission Only:** CAC-3

**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.

**Suggested Data Collection Question:** Does documentation exist that the HMPC as a separate document, specific to the patient, was given to the patient/caregiver, prior to or upon discharge?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes) Documentation exists that the HMPC document was given to the patient/caregiver, prior to or upon discharge.

N (No) Documentation does not exist that the HMPC document was given to the patient/caregiver, prior to or upon discharge, or unable to determine from the medical record documentation.

R (Refused) Documentation exists that the HMPC document was refused by the patient/caregiver.

**Notes for Abstraction:**

- Specificity to the patient entails explicit information pertaining to the patient, i.e., the patient's specific controllers and relievers medication information (name, dose, frequency, and method of administration), environmental control and control of other triggers, and methods and timing of rescue actions specific to the patient, in order to select "Yes".
- HMPC must be a separate, stand alone document, in order to select "Yes".
- Documentation must clearly convey that the patient/caregiver was given a copy of the HMPC to take home.
- The HMPC does NOT need to be given at the time of discharge. An HMPC given at anytime during the hospital stay is acceptable.
- The caregiver is defined as the patient's family or any other person (e.g., home health, VNA provider, prison official or other law enforcement personnel) who will be responsible for care of the patient after discharge.

**Suggested Data Sources:**

- HMPC document found in the Medical Record
- Discharge instruction sheet
- Discharge summary
- Nursing notes
- Progress notes
- Teaching sheet

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Home Management Plan of Care Document Present*

**Collected For: The Joint Commission Only:** CAC-3

**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.

**Suggested Data Collection Question:** Is there a separate, patient specific Home Management Plan of Care document present in the medical record?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes)      There is a separate, patient specific Home Management Plan of Care document present in the medical record.

N (No)      There is no separate, patient specific Home Management Plan of Care document present in the medical record or unable to determine from the medical record documentation.

**Notes for Abstraction:**

- The Home Management Plan of Care (HMPC) document could be in the form of a Daily Self-Management Plan or an Asthma Action Plan only if it is a separate, patient-specific document.
- This data element seeks to determine the presence and content of a patient specific document separate from the traditional discharge instructions.
- Specificity to the patient entails explicit information pertaining to the patient, i.e., the patient's specific controllers and relievers medication information (name, dose, frequency, and method of administration), environmental control and control of other triggers, and methods and timing of rescue actions specific to the patient, in order to select "Yes".

**Suggested Data Sources:**

Medical record

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *ICD-9-CM Other Diagnosis Codes*

**Collected For:** CMS/The Joint Commission: All Records; **Used in Algorithms for:** CMS/The Joint Commission: All IMM Measures, PN-3a, PN-3b, PN-4, PN-5c; **CMS Only:** PN-6; **The Joint Commission Only:** PN-5, PN-6a, PN-6b, SUB-3, SUB-4, TOB-2, TOB-3, All VTE Measures; **CMS Informational Only:** SUB-3, SUB-4, TOB-2, TOB-3

**Definition:** The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes associated with the diagnosis for this hospitalization.

**Suggested Data Collection Question:** What were the ICD-9-CM other diagnosis codes selected for this medical record?

**Format:**

**Length:** 6 (with or without decimal point)

**Type:** Alphanumeric

**Occurs:** 24

**Allowable Values:**

Any valid ICD-9-CM diagnosis code

**Notes for Abstraction:**

None

**Suggested Data Sources:**

- Discharge summary
  - Face sheet
  - UB-04, Field Locations: 67A-Q
- Note:** Medicare will only accept codes listed in fields A-H

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *ICD-9-CM Other Procedure Codes*

**Collected For:** CMS/The Joint Commission: All Records; **Used in Algorithms for:** CMS/The Joint Commission: AMI-8, AMI-8a, HF-1, HF-2, HF-3, HF-4, IMM-2; **The Joint Commission Only:** SUB-3, SUB-4; **CMS Informational Only:** SUB-3, SUB-4

**Definition:** The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes identifying all significant procedures other than the principal procedure.

**Suggested Data Collection Question:** What were the ICD-9-CM code(s) selected as other procedure(s) for this record?

**Format:**

**Length:** 5 (with or without decimal point)

**Type:** Alphanumeric

**Occurs:** 24

**Allowable Values:**

Any valid ICD-9-CM procedure code

**Notes for Abstraction:**

None

**Suggested Data Sources:**

- Discharge summary
- Face sheet
- UB-04, Field Location: 74A-E

**Inclusion Guidelines for Abstraction:**

For inclusion in the algorithms listed above, refer to Appendix A, for ICD-9-CM Code Tables (AMI, HF, IMM, SUB).

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *ICD-9-CM Other Procedure Dates*

**Collected For: CMS/The Joint Commission:** All Records

**Definition:** The month, day, and year when the associated procedure(s) was (were) performed.

**Suggested Data Collection Question:** What were the date(s) the other procedure(s) were performed?

**Format:**

**Length:** 10 – MM-DD-YYYY (includes dashes) or UTD

**Type:** Date

**Occurs:** 24

**Allowable Values:**

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (2001 – Current Year)

UTD = Unable to Determine

**Notes for Abstraction:**

- If the procedure date for the associated procedure is unable to be determined from medical record documentation, select “UTD”.
- The medical record must be abstracted as documented (taken at “face value”). When the date documented is obviously in error (not a valid format/range or outside of the parameters of care [after *Discharge Date*]) **and** no other documentation is found that provides this information, the abstractor should select “UTD”.

Examples:

- Documentation indicates the *ICD-9-CM Other Procedure Dates* was 02-42-20xx. No other documentation in the medical record provides a valid date. Since the *ICD-9-CM Other Procedure Dates* is outside of the range listed in the Allowable Values for “Day,” it is not a valid date and the abstractor should select “UTD”.
- Patient expires on 02-12-20xx and documentation indicates the *ICD-9-CM Other Procedure Dates* was 03-12-20xx. Other documentation in the medical record supports the date of death as being accurate. Since the *ICD-9-CM Other Procedure Dates* is after the *Discharge Date* (death), it is outside of the parameters of care and the abstractor should select “UTD”.

**Note:** Transmission of a case with an invalid date as described above will be rejected from the QIO Clinical Warehouse and the Joint Commission’s Data Warehouse. Use of “UTD” for *ICD-9-CM Other Procedure Dates* allows the case to be accepted into the warehouse.

**Suggested Data Sources:**

- Consultation notes
- Diagnostic test reports
- Discharge summary
- Face sheet
- Operative notes
- Procedure notes
- Progress notes
- UB-04, Field Location: 74A-E

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *ICD-9-CM Principal Diagnosis Code*

**Collected For:** CMS/The Joint Commission: All Records; **Used in Algorithms for:** CMS/The Joint Commission: ED-1, ED-2, All IMM Measures; **The Joint Commission Only:** STK-2, STK-3, STK-4, STK-5, STK-6, SUB-3, SUB-4, TOB-2, TOB-3, All VTE Measures; **CMS Informational Only:** SUB-3, SUB-4, TOB-2, TOB-3

**Definition:** The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code associated with the diagnosis established after study to be chiefly responsible for occasioning the admission of the patient for this hospitalization.

**Suggested Data Collection Question:** What was the ICD-9-CM code selected as the principal diagnosis for this record?

**Format:**

**Length:** 6 (with or without decimal point)

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Any valid ICD-9-CM diagnosis code

**Notes for Abstraction:**

The principal diagnosis is defined in the Uniform Hospital Discharge Data Set (UHDDS) as “that condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.”

**Suggested Data Sources:**

- Discharge summary
- Face sheet
- UB-04, Field Location: 67

**Inclusion Guidelines for Abstraction:**

Refer to Appendix A, for ICD-9-CM Code Tables (AMI, ED, HF, IMM, PN, STK, SUB, TOB, VTE).

**Exclusion Guidelines for Abstraction:**

Refer to Appendix A, for ICD-9-CM Code Tables (ED, SCIP, IMM).



**Data Element Name:** *ICD-9-CM Principal Procedure Code*

**Collected For:** CMS/The Joint Commission: All Records; **Used in Algorithm For:** CMS/The Joint Commission: AMI-8, AMI-8a, HF-1, HF-2, HF-3, HF-4, IMM-2, All SCIP Records; **The Joint Commission Only:** VTE-1, VTE-2, SUB-3, SUB-4; **CMS Informational Only:** SUB-3, SUB-4

**Definition:** The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies the principal procedure performed during this hospitalization. The principal procedure is the procedure performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication.

**Suggested Data Collection Question:** What was the ICD-9-CM code selected as the **principal** procedure for this record?

**Format:**

**Length:** 5 (with or without decimal point)

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Any valid ICD-9-CM procedure code

**Notes for Abstraction:**

The principal procedure as described by the Uniform Hospital Discharge Data Set (UHDDS) is one performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication.

**Suggested Data Sources:**

- Discharge summary
- Face sheet
- UB-04, Field Location: 74

**Inclusion Guidelines for Abstraction:**

For inclusion in the algorithms listed above, refer to Appendix A, for ICD-9-CM Code Tables (AMI, HF, SCIP, VTE, IMM, SUB).

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *ICD-9-CM Principal Procedure Date*

**Collected For: CMS/The Joint Commission:** All Records

**Definition:** The month, day, and year when the principal procedure was performed.

**Suggested Data Collection Question:** What was the date the principal procedure was performed?

**Format:**

**Length:** 10 – MM-DD-YYYY (includes dashes) or UTD

**Type:** Date

**Occurs:** 1

**Allowable Values:**

MM = Month (01-12)

DD = Day (01-31)

YYYY = Year (2001 – Current Year)

UTD = Unable to Determine

**Notes for Abstraction:**

- If the principal procedure date is unable to be determined from medical record documentation, select “UTD”.
- The medical record must be abstracted as documented (taken at “face value”). When the date documented is obviously in error (not a valid date/format or is outside of the parameters of care [after *Discharge Date*]) **and** no other documentation is found that provides this information, the abstractor should select “UTD”.

Examples:

- Documentation indicates the *ICD-9-CM Principal Procedure Date* was 02-42-20xx. No other documentation in the medical record provides a valid date. Since the *ICD-9-CM Principal Procedure Date* is outside of the range listed in the Allowable Values for “Day,” it is not a valid date and the abstractor should select “UTD”.
- Patient expires on 02-12-20xx and documentation indicates the *ICD-9-CM Principal Procedure Date* was 03-12-20xx. Other documentation in the medical record supports the date of death as being accurate. Since the *ICD-9-CM Principal Procedure Date* is after the *Discharge Date* (death), it is outside of the parameter of care and the abstractor should select “UTD”.

**Note:** Transmission of a case with an invalid date as described above will be rejected from the QIO Clinical Warehouse and the Joint Commission’s Data Warehouse. Use of “UTD” for *ICD-9-CM Principal Procedure Date* allows the case to be accepted into the warehouse.

**Suggested Data Sources:**

- Consultation notes
- Diagnostic test reports
- Discharge summary
- Face sheet
- Operative notes
- Procedure notes
- Progress notes
- UB-04, Field Location: 74

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Payment Source*

**Collected For: CMS/The Joint Commission:** All Records

**Definition:** The source of payment for this episode of care.

**Suggested Data Collection Question:** What is the patient's source of payment for this episode of care?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

- 1 Source of payment is Medicare.
- 2 Source of payment is Non-Medicare.

**Notes for Abstraction:**

- If Medicare is listed as the primary, secondary, tertiary, or even lower down on the list of payers, select "1".
- If the patient has Medicaid only or Medicaid and another insurance type, other than Medicare, select "2". If the patient has Medicaid and Medicare, select "1".
- If the patient is an Undocumented Alien or Illegal immigrant, select "1".  
Undocumented Alien: Section 1011 of the Medicare Modernization Act of 2003 allows for reimbursement for services rendered to patients who are:  
Undocumented or illegal aliens (immigrants), Aliens who have been paroled into a United States port of entry and Mexican citizens permitted to enter the United States on a laser visa.

**Suggested Data Sources:**

- Face sheet
- UB-04, Field Location: 50A, B or C

**Inclusion Guidelines for Abstraction:**

Medicare includes, but is not limited to:

- Medicare Fee for Service (includes DRG or PPS)
- Black Lung
- End Stage Renal Disease (ESRD)
- Railroad Retirement Board (RRB)
- Medicare Secondary Payer
- Medicare HMO/Medicare Advantage

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Reason for Not Administering Relievers*

**Collected For: The Joint Commission Only:** CAC-1

**Definition:** Reasons for not administering relievers during this hospitalization:

- Allergy to relievers
- Other reasons documented by physician/APN/PA or pharmacist

Relievers are medications that relax the bands of muscle surrounding the airways and are used to quickly alleviate bronchoconstriction and prevent exercise-induced bronchospasm. Relievers are also known as rescue, quick-relief, or short acting medications of choice to quickly relieve asthma exacerbations.

**Suggested Data Collection Question:** Is there documentation of a reason for not administering relievers during this hospitalization?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

- |         |   |
|---------|---|
| Y (Yes) | There is documentation of a reason for not administering relievers during this hospitalization.   |
| N (No)  | There is no documentation of a reason for not administering relievers during this hospitalization or unable to determine from medical record documentation. |

**Notes for Abstraction:**

- When there is documentation of an “allergy,” “sensitivity,” “intolerance,” “adverse or side effects,” cardiac dysrhythmias, etc., regard this as documentation of a reason for not administering relievers regardless of what type of reaction might be noted. Do not attempt to distinguish between true allergies, sensitivities, intolerances, adverse or side effects, cardiac dysrhythmias, etc. (e.g., “Allergies: Relievers – select “Yes”).
- When conflicting information is documented in a medical record, select “Yes”.
- When determining whether there is a reason documented by a physician/APN/PA or pharmacist for not administering relievers during this hospitalization:
  - Reasons must be explicitly documented or clearly implied (e.g., intolerance to relievers” or “problems with relievers in past”).

**Suggested Data Sources:**

- Consultation notes
- Discharge summary

- Emergency department record
- History and physical
- Medication administration record (MAR)
- Medication reconciliation form
- Nursing notes
- Physician orders
- Progress notes

**Inclusion Guidelines for Abstraction:**

- Allergies/sensitivities/intolerance
- Cardiovascular side effects
- Cardiac dysrhythmias or arrhythmias
- Side effects

Refer to Appendix C, Table 6.2 for a comprehensive list of Reliever Medications.

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Reason for Not Administering Systemic Corticosteroids*

**Collected For: The Joint Commission Only:** CAC-2

**Definition:** Reasons for not administering systemic corticosteroids during this hospitalization:

- Allergy to systemic corticosteroids
- Oral, IM, or intravenous (systemic) corticosteroids were administered to the patient within 24 hours prior to arrival AND patient was not a candidate to receive an additional dose during this hospitalization
- Other reasons documented by physician/APN/PA or pharmacist

Corticosteroids are a family of potent anti-inflammatory medications produced either naturally by the adrenal cortex or manufactured synthetically, in inhaled, topical, oral, IM, and intravenous forms.

**Suggested Data Collection Question:** Is there documentation of a reason for not administering systemic corticosteroids during this hospitalization?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes)      There is documentation of a reason for not administering systemic corticosteroids during this hospitalization.

N (No)      There is no documentation of a reason for not administering systemic corticosteroids during this hospitalization or unable to determine from medical record documentation.

**Notes for Abstraction:**

- When there is documentation of an “allergy,” “sensitivity,” “intolerance,” “adverse or side effects,” regard this as documentation of a reason for not administering systemic corticosteroids regardless of what type of reaction might be noted. Do not attempt to distinguish between true allergies, sensitivities, intolerances, adverse or side effects, etc. (e.g., “Allergies: Systemic Corticosteroids – select “Yes”).
- When conflicting information is documented in a medical record, select “Yes”.
- When determining whether there is a reason documented by a physician/APN/PA or pharmacist for not administering oral, IM, or intravenous (systemic) corticosteroids during this hospitalization.
  - Reasons must be explicitly documented or clearly implied (e.g., “intolerance to systemic corticosteroids” or “problems with systemic corticosteroids in past”).

**Suggested Data Sources:**

- Ambulance record
- Consultation notes
- Discharge summary
- Emergency department record
- History and physical
- Medication administration record (MAR)
- Medication reconciliation form
- Nursing notes
- Physician orders
- Progress notes
- Records from physician's office, clinic, or transferring facility (must be a part of this current medical record)

**Inclusion Guidelines for Abstraction:**

- Allergies/sensitivities/intolerance
- Side effects

Refer to Appendix C, Table 6.3 for a comprehensive list of Systemic Corticosteroids.

**Exclusion Guidelines for Abstraction:**

None



**Data Element Name:** *Relievers Administered*

**Collected For: The Joint Commission Only:** CAC-1

**Definition:** Documentation that the patient received reliever medication(s) for asthma exacerbation during this hospitalization. Inpatient hospitalization includes the time from arrival to the emergency department (ED) or observation area until discharge from the inpatient setting.

Relievers are medications that relax the bands of muscle surrounding the airways and are used to quickly alleviate bronchoconstriction and prevent exercise-induced bronchospasm.

**Suggested Data Collection Question:** Did the patient receive a reliever medication(s) during this hospitalization?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes) The patient received a reliever medication(s) during this hospitalization.

N (No) The patient did not receive a reliever medication(s) during this hospitalization or unable to determine from the medical record documentation.

**Notes for Abstraction:**

- For the purposes of the CAC measures, inpatient hospitalization includes the time of arrival to the emergency department (ED) or observation area until discharge from the inpatient setting.
- For reliever medication(s) administered in the Emergency Department observation area which was given prior to the inpatient admission, select “Yes”.
- “Reliever Not Specified (NOS)” can be used to answer “Yes” to this question in the following situations:
  - For new relievers that are not yet listed in Table 6.2.
  - When there is documentation that a reliever was administered but unable to identify the name. It must be apparent that the medication is a reliever. Example:  
On 2-12-20xx, the ED record contains the documentation, “Reliever started *name illegible*, 2.5 ml, PO, 0200-JM.” In the reliever grid, “Reliever NOS” would be entered for the name, PO for the route, 0200 for the time and 2-12-20xx for the date. (If “Reliever started” had not been

documented in this example, the medication could not be abstracted as *Relievers Administered.*)

**Suggested Data Sources:**

- Emergency department record
- Medication administration record (MAR)
- Nursing flow sheet
- Nursing notes

**Inclusion Guidelines for Abstraction:**

Refer to Appendix C, Table 6.2 for a comprehensive list of Reliever Medications.

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** Sex

**Collected For: CMS/The Joint Commission:** All Records; **Used in Algorithms For: CMS/The Joint Commission:** SCIP-Card-2

**Definition:** The patient's documented sex on arrival at the hospital.

**Suggested Data Collection Question:** What was the patient's sex on arrival?

**Format:**

**Length:** 1

**Type:** Character

**Occurs:** 1

**Allowable Values:**

M = Male

F = Female

U = Unknown

**Notes for Abstraction:**

- Collect the documented patient's sex at admission or the first documentation after arrival.
- Consider the sex to be unable to be determined and select "Unknown" if:
  - The patient refuses to provide their sex.
  - Documentation is contradictory.
  - Documentation indicates the patient is a Transexual.
  - Documentation indicates the patient is a Hermaphrodite.

**Suggested Data Sources:**

- Consultation notes
- Emergency department record
- Face sheet
- History and physical
- Nursing admission notes
- Progress notes
- UB-04, Field Location: 11

**Inclusion Guidelines for Abstraction:**

None

**Exclusion Guidelines for Abstraction:**

None

**Data Element Name:** *Systemic Corticosteroids Administered*

**Collected For: The Joint Commission Only:** CAC-2

**Definition:** Documentation that the patient received oral, IM, or intravenous (systemic) corticosteroids for asthma exacerbation during this inpatient hospitalization. Inpatient hospitalization includes the time from arrival to the emergency department (ED) or observation area until discharge from the inpatient setting.

Systemic corticosteroids (oral, IM, or intravenous corticosteroids) are recommended as short term or rescue medications to relieve bronchoconstriction rapidly, making them useful in gaining quick initial control of asthma and in treatment of moderate to severe asthma exacerbations.

**Suggested Data Collection Question:** Did the patient receive oral, IM, or intravenous corticosteroids during this hospitalization?

**Format:**

**Length:** 1

**Type:** Alphanumeric

**Occurs:** 1

**Allowable Values:**

Y (Yes)      The patient received oral, IM, or intravenous corticosteroids during this hospitalization.

N (No)      The patient did not receive oral, IM, or intravenous corticosteroids during this hospitalization or unable to determine from the medical record documentation.

**Notes for Abstraction:**

- For the purpose of the CAC measures, inpatient hospitalization includes the time of arrival to the emergency department (ED) or observation area until discharge from the inpatient setting.
- For systemic corticosteroids (oral, IM, or intravenous) administered in the Emergency Department/observation area which was given prior to the inpatient admission, select “Yes”.
- “Systemic Corticosteroid Not Specified (NOS)” can be used to answer “Yes” to this question in the following situations:
  - For new systemic corticosteroids that are not yet listed in Table 6.3.
  - When there is documentation that a systemic corticosteroid was administered but unable to identify the name. It must be apparent that the medication is a systemic corticosteroid.  
Example:  
On 2-12-20xx, the ED record contains the documentation, “Systemic corticosteroid started name illegible, 100 mg, IV, 0200-JM.” In the reliever

grid, “Systemic corticosteroid NOS” would be entered for the name, IV for the route, 0200 for the time and 2-12-20xx for the date. (If “Systemic corticosteroid started” had not been documented in this example, the medication could not be abstracted as *Systemic Corticosteroid Administered.*)

**Suggested Data Sources:**

- Emergency department record
- Medication administration record (MAR)
- Nursing flow sheet
- Nursing notes

**Inclusion Guidelines for Abstraction:**

Include corticosteroids given:

**PO/NG/PEG tube:**

- Any kind of feeding tube, e.g., percutaneous endoscopic gastrostomy, percutaneous endoscopic jejunostomy, gastrostomy tube
- By mouth
- Gastric tube
- G-tube
- Jejunostomy
- J-tube
- Nasogastric tube
- PO
- P.O.

**Intramuscular:**

- IM

**Intravenous:**

- Bolus
- Infusion
- IV
- I.V.
- IV Piggyback (IVP)

Refer to Appendix C, Table 6.3 for a comprehensive list of oral, IM, or intravenous Systemic Corticosteroids.

**Exclusion Guidelines for Abstraction:**

- Inhalation
- Nasal sprays