

Client	HEALTH BENCHMARKS, INC. STANDARD ALGORITHM <i>Implemented for Blue Cross Blue Shield of Texas</i>		
Measure Title	USE OF LONG-TERM CONTROL DRUGS FOR PERSISTENT ASTHMA		
Disease State	Asthma	Indicator Classification	Disease Management
Strength of Recommendation	A (<i>inhaled corticosteroid or inhaled corticosteroid combos</i>) B (<i>other classes of medication [i.e., mast cell stabilizers, leukotriene modifiers, methylxanthines]</i>)		
Organizations Providing Recommendation	Joint Council of Allergy, Asthma and Immunology National Asthma Education and Prevention Program National Heart, Lung and Blood Institute		
Clinical Intent	To ensure that members with persistent asthma receive medication appropriate for long term control of asthma.		
Physician Specialties	Family Practice, Geriatric Medicine, Internal Medicine, Pediatric Pulmonology, Pediatrics, Pulmonary Diseases		
Background	<p>Disease Burden</p> <ul style="list-style-type: none"> • An estimated 32.6 million persons in the United States have been diagnosed with asthma sometime in their lifetime, as of 2005.[1] • In 2004, asthma led to over 1.8 million emergency department visits, nearly 500,000 hospitalizations, and over 4,000 deaths.[1] <p>Reason for Indicated Intervention or Treatment</p> <ul style="list-style-type: none"> • Regular use of inhaled corticosteroids improves asthma control, and decreases hospital admissions and mortality from asthma in adults and children with persistent asthma.[2-4] • For patients with moderate persistent asthma, adding a long-acting beta-2 agonist to a low or medium dose inhaled corticosteroid improves lung function and symptoms, decreases asthma exacerbations, and reduces the use of additional short-acting beta-2-agonists.[4] • Many patients with persistent asthma are still being undertreated with long-term control medications.[5-7] <p>Evidence Supporting Intervention or Treatment</p> <ul style="list-style-type: none"> • Randomized, controlled trials have shown that inhaled corticosteroid use in patients with persistent asthma, when compared to placebo or beta-2-agonists, results in improved pre-bronchodilator FEV1, reduced oral steroid and supplemental short-acting beta-2-agonist use, and decreased airway responsiveness, asthma symptom scores, and hospitalizations.[8-23] 		

- Results from randomized, controlled trials on using leukotriene modifiers alone for those with persistent asthma are mixed. Some randomized control trials show no difference between leukotriene modifier and inhaled corticosteroid use [24-28], but others found increased asthma exacerbations and poorer symptom control in those using the leukotriene modifiers.[29-31]
- For asthma that is poorly controlled with inhaled corticosteroid use alone, randomized controlled trials have shown that patients have better symptom control when long-acting beta-2-agonists are added, instead of leukotriene modifiers.[32-34]
- Most randomized control trials demonstrate that adding a long-acting beta-2-agonist to an inhaled corticosteroid decreases asthma exacerbations more than increasing the inhaled corticosteroid dose.[35-38] However, one randomized control trial found that increasing the inhaled corticosteroid dose led to better symptom control than adding a long-acting beta-2-agonist.[39]

Clinical Recommendations

- An expert panel convened by the National Heart, Lung and Blood Institute and the National Asthma Education and Prevention Program (NAEPP) developed Expert Panel Report 3 (EPR3) Guidelines for the Diagnosis and Management of Asthma published in 2007. EPR3 states that the following medications are appropriate for the long-term control of persistent asthma:[40]
 - Corticosteroids – most potent and effective medication currently available
 - Cromolyn sodium and nedocromil – used as alternative but not preferred for treatment of persistent asthma.
 - Immunomodulators – Omalizumab (anti-IgE) as adjunctive therapy for severe persistent asthma[4]
 - Leukotriene modifiers – alternative, but not preferred therapy for the treatment of mild asthma
 - Long acting beta agonist – should not be used as monotherapy – but can be used in combination with inhaled corticosteroids for long-term control and prevention of systems in moderate or severe persistent asthma
 - Methylxathines – used as alternative, not preferred, adjunctive therapy with inhaled corticosteroid

Source Healthcare Effectiveness Data and Information Set (HEDIS®) 2008 Technical Specification for Physician Measurement

Denominator Definition Continuously enrolled members ages 5 - 56 years with evidence of persistent asthma (mild to severe) who meet at least 1 of the following criteria in *both* the measurement year and the year prior to the measurement year (criteria need not be the same across both years):

- At least 4 medication dispensing events

- Members whose 4 asthma medication dispensing events were solely for leukotriene modifiers must have a diagnosis of asthma during the same year as the leukotriene modifier (i.e. the measurement year or the year prior) or additionally meet any of the other persistent asthmatic criteria to be considered in the denominator
 - At least 1 ED visit with a primary diagnosis of asthma
 - At least 1 acute inpatient discharge with asthma as the primary diagnosis
 - At least 4 outpatient visits with asthma as one the listed diagnoses and at least two medication dispensing events

Denominator Codes Asthma
 ICD-9 diagnosis code(s): 493.xx
ED setting
 CPT-4 code(s): 99281-99285
 UB revenue code(s): 045x, 0981
Acute inpatient encounter
 CPT-4 code(s): 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291
 UB revenue code(s): 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 0987
Outpatient encounter
 CPT-4 code(s): 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99382-99386, 99392-99396, 99401-99404, 99411, 99412, 99420, 99429, 99499
 UB revenue code(s): 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 0982, 0983
Acute inpatient encounter
 CPT-4 code(s): 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291
 UB revenue code(s): 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 0987

Denominator Exclusion Definition Members who were diagnosed with emphysema or chronic obstructive pulmonary disease (COPD) any time prior to the end of the measurement year.

Denominator Exclusion Codes Emphysema
 ICD-9 diagnosis code(s): 492.x, 506.4, 518.1, 518.2
COPD
 ICD-9 diagnosis code(s): 491.2x, 493.2, 496, 506.4

Numerator Definition Members who received a prescription for a medication appropriate for long-term control of asthma during the measurement year.

Numerator Codes N/A

Physician Attribution Description **If client data does not contain PCP:**

Score all physicians (in the selected specialties) who saw the member during the measurement year.

If client data does contain PCP:

Score all primary care physicians who were assigned to the member during the measurement year.

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