



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 Classification¹	Disease Management
Strength of Recommendation²	A - B		
Organizations Providing Recommendation	NCQA (HEDIS 2007 Technical Specification), The National Heart, Lung and Blood Institute, The National Asthma Education and Prevention Program, The Joint Council of Allergy, Asthma and Immunology		
Clinical Intent	To ensure that members with persistent asthma receive medication appropriate for long term control of asthma.		
Physician Specialties	Allergy – Immunology, Family Practice, Geriatric Medicine, Internal Medicine, Pediatric Pulmonary Disease, Pediatrics, Pulmonary Disease		

Clinical Rationale

Disease Burden

- Approximately 30.8 million persons in the United States have been diagnosed with asthma.[1]
- In 2002, asthma led to over 1.9 million emergency department visits, about 500,000 hospitalizations, and over 4000 deaths. [1]

Reason for Indicated Intervention or Treatment

- 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 under-treated with long-term control medications.[5-7]

Evidence supporting Intervention or Treatment

- 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, the National Asthma Education and Prevention Program (NAEPP), developed Guidelines for the Diagnosis and Management of Asthma. The NAEPP's 2002 update recommends inhaled corticosteroids as first-line therapy in all patients older than 5 years with persistent asthma.[4]
 - Other long-term medications such as leukotriene modifiers, cromolyn, nedocromil and theophylline are now considered to be second-line or alternative treatments.[4]
 - For patients poorly controlled with inhaled corticosteroid use, the NAEPP recommends the addition of a beta-2-agonist over the addition of a leukotriene modifier.[4]
- The Joint Council of Allergy, Asthma and Immunology (JCAAI) recommends the use of β_2 agonists, theophylline, cromolyn, nedocromil, and inhaled corticosteroids for the pharmacotherapeutic treatment of chronic asthma.[40]

Source

Health Plan Employer Data and Information Set (HEDIS®) 2007 Technical Specification

Denominator

Continuously enrolled members ages 5 - 56 years with evidence of persistent asthma (mild to severe) who meet at least one 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 four medication dispensing events
 - Members whose four 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 one ED visit with a primary diagnosis of asthma
- At least one acute inpatient discharge with asthma as the primary diagnosis
- At least four outpatient visits with asthma as one of the listed diagnoses and at least two medication dispensing events

Denominator Exclusion

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

Numerator	Members who received a prescription for a medication appropriate for long-term control of asthma during the measurement year.
Interpretation of Score	High score implies better performance
Physician Attribution Description	Score all physicians (in the selected specialties) who saw the member during the measurement year.

References

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- than montelukast in asthmatic patients receiving concomitant inhaled corticosteroid therapy. *Chest*, 2001. **120**(2): p. 423-30.
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¹ **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

Diagnosis	Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)
Effectiveness of Care	
Prevention	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).
Screening	Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).
Disease Management	Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
Medication Monitoring	Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)
Medication Adherence	Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).
Utilization	Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).

² Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

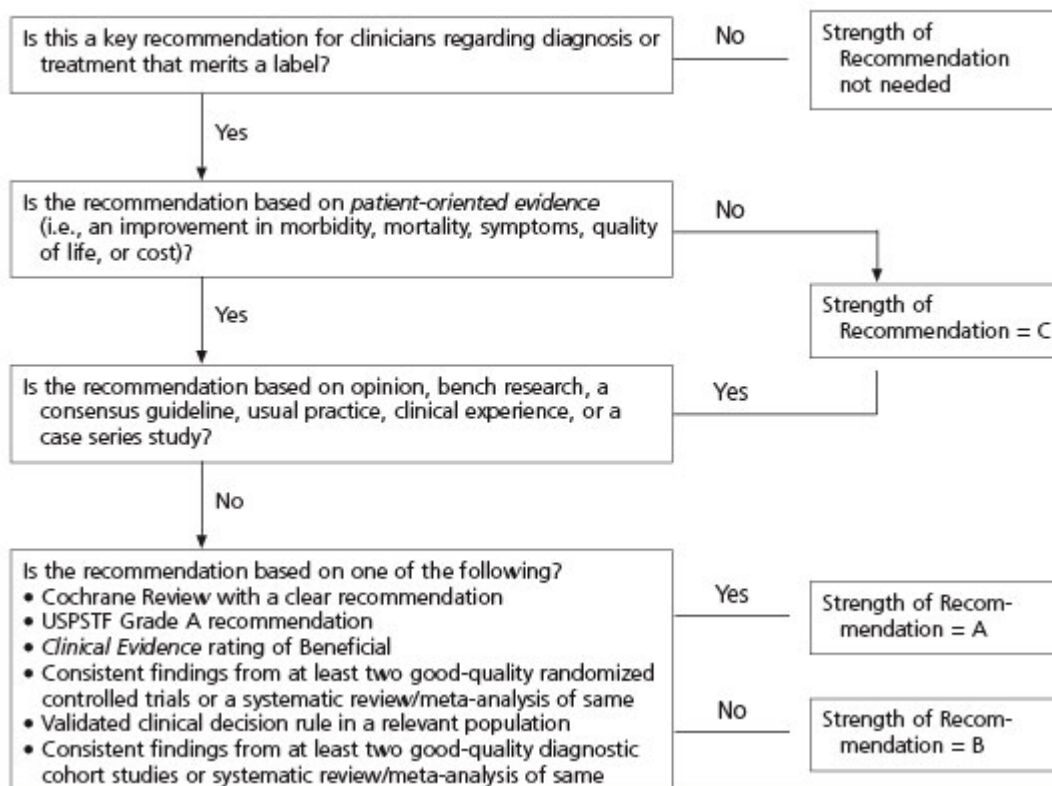


FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)