

**Measure Title** ADHERENCE TO INHALED CORTICOSTEROIDS FOR PERSISTENT ASTHMATICS

**Disease State** Asthma **Indicator Classification<sup>1</sup>** Medication Adherence

**Strength of Recommendation<sup>2</sup>** A (*Inhaled corticosteroids*)  
 C (*Physician Impact on Adherence*)

**Physician Specialties** Allergy, Family Practice, Gerontology, Internal Medicine, Pediatric Pulmonology, Pediatrics

**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]
- Studies examining patient adherence to inhaled corticosteroids have shown that patients only took the recommended dose of their inhaled corticosteroids 20% to 73% of the time.[2]

**Reason for Indicated Intervention or Treatment**

- Evidence suggests that physician counseling regarding disease risk factors and medication persistence plays an important role in maximizing patient adherence.
- Many patients with persistent asthma are still being undertreated with long-term control medications.[3, 4]

**Evidence supporting Intervention or Treatment**

- There are no well designed trials specifically evaluating the impact of physician counseling on improving patient adherence to inhaled corticosteroid use.
- One prospective study of 1043 patients demonstrated that participation in asthma management plans improved patient daily steroid inhaler use.[5]
- In addition, a 2002 Cochrane Database meta-analysis of studies aimed at improving medication adherence (not specifically focused on inhaled corticosteroid use) found that almost all of the interventions effective for long-term care were complex, including combinations of more information, reminders, self-monitoring, reinforcement, counseling, family therapy, and other forms of additional supervision or attention by a health care provider (physician, nurse, pharmacist or other).[6]
- A large review article in the New England Journal of Medicine suggested that “practitioners should always look for poor adherence and can enhance adherence by emphasizing the value of a patient’s regime, making the regime simple, and customizing the regime to a patient’s lifestyle. Asking patients non-judgmentally about medication-taking behavior is a practical strategy for identifying poor adherence. A collaborative approach to care augments adherence. Patients who have difficulty maintaining adequate adherence need more intensive strategies than do patients who have less difficulty with adherence, a more forgiving regime, or both... new technologies such as reminders

through cell phones and personal digital assistants and pillboxes with paging systems may be needed to help patients who have the most difficulty meeting the goals of a regime.” [7]

### Clinical Recommendations

- The National Asthma Education and Prevention Program (NAEPP), an expert panel convened by the National Heart, Lung and Blood Institute, recommended that daily long-term control medications are necessary to prevent exacerbations and chronic symptoms for all patients with persistent asthma, whether the persistent asthma is mild, moderate, or severe and that inhaled corticosteroids are preferred because they are the most effective anti-inflammatory medication available for treating the underlying inflammation characteristic of persistent asthma.[8]
- Patients should be taught basic facts about asthma and the roles of their medications, necessary medication skills, self-monitoring skills (including symptom and peak flow monitoring as appropriate), and relevant environmental control and avoidance strategies.[9]

<b>Source</b>	Health Benchmarks, Inc.
<b>Denominator</b>	Continuously enrolled members ages 6 - 56 years by the end of the measurement year, who had at least one primary diagnosis for asthma during the one year period starting 6 months prior to the beginning of the measurement year and received at least a 60 day supply of Inhaled Corticosteroids (ICS) at any time during the six months following the index prescription date (index prescription = first script during the one year period beginning six months prior to the measurement year)
<b>Denominator Exclusion</b>	Members without prescription benefits or who were diagnosed with emphysema or chronic obstructive pulmonary disease (COPD) any time prior to the last day of the measurement year.
<b>Numerator</b>	Members in the denominator who had sufficient days supply of inhaled corticosteroids to provide for at least 80% coverage of the 6 month period following the index prescription of inhaled corticosteroids
<b>Interpretation of Score</b>	High score implies better performance.
<b>Physician Attribution</b>	All physicians in the applicable specialty areas who came in contact with the member starting on the index date (date of service of the first prescription) through the 0-6 months after (inclusive).
<b>External Files Required for Analysis</b>	Denominator file name: <i>ics_medlist_2006.xls</i> Source: NCQA website Updated Annually
<b>References</b>	

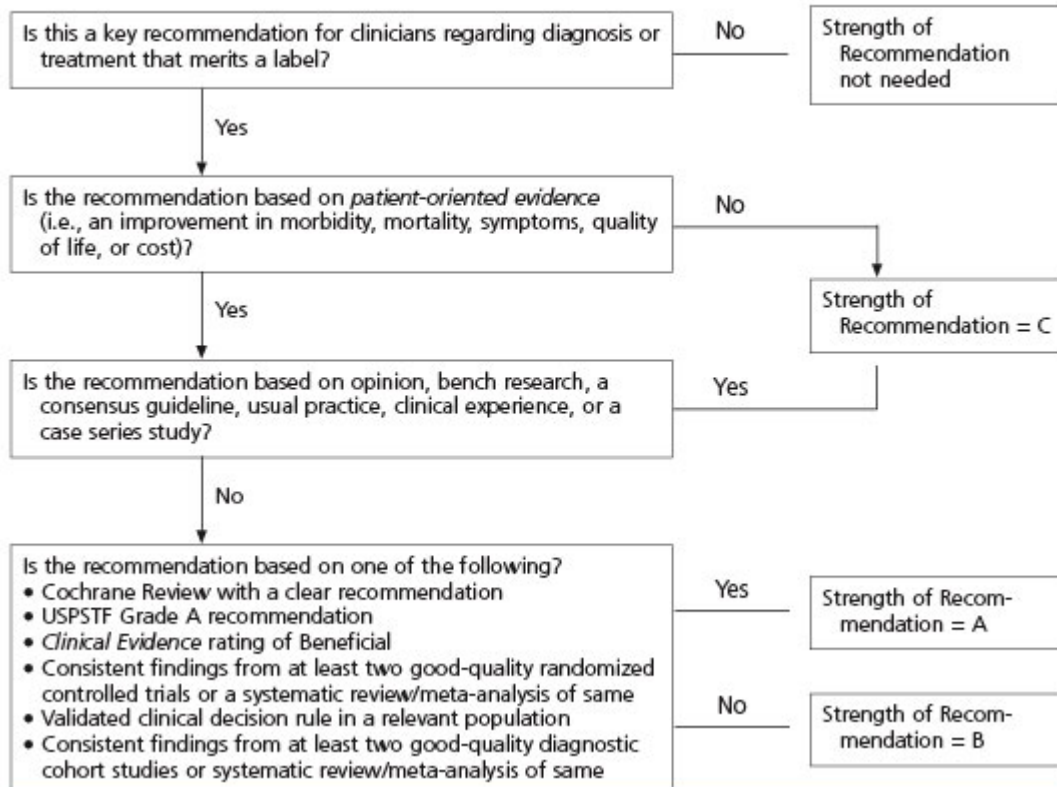
1. *Asthma Prevalence, Health Care Use and Mortality, 2002*. National Center for Health Statistics, 2002.
2. Cochrane, M.G., et al., *Inhaled corticosteroids for asthma therapy: patient compliance, devices, and inhalation technique*. Chest, 2000. **117**(2): p. 542-50.

3. Jatulis, D.E., et al., *Preventive pharmacologic therapy among asthmatics: five years after publication of guidelines*. *Ann Allergy Asthma Immunol*, 1998. **81**(1): p. 82-8.
4. Wu, A.W., et al., *Quality of care and outcomes of adults with asthma treated by specialists and generalists in managed care*. *Arch Intern Med*, 2001. **161**(21): p. 2554-60.
5. Legorreta, A.P., et al., *Outcomes of a population-based asthma management program: quality of life, absenteeism, and utilization*. *Ann Allergy Asthma Immunol*, 2000. **85**(1): p. 28-34.
6. Haynes, R.B., et al., *Interventions for helping patients to follow prescriptions for medications*. *Cochrane Database Syst Rev*, 2002(2): p. CD000011.
7. Osterberg, L. and T. Blaschke, *Adherence to Medication*. *N Engl J Med*, 2005. **353**(5): p. 487-497.
8. Williams, S., et al., *Key clinical activities for quality asthma care. Recommendations of the National Asthma Education and Prevention Program*. *MMWR Recomm Rep.*, 2003. **52**(RR-6): p. 1-8.
9. *National Asthma Education and Prevention Program. Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma Update on Selected Topics--2002*. *J Allergy Clin Immunol*, 2002. **110**(5 Suppl): p. S141-219.

<sup>1</sup> **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<b>Diagnosis</b>	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)
<b>Effectiveness of Care</b>	
<b>Prevention</b>	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).
<b>Screening</b>	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).
<b>Disease Management</b>	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).
<b>Medication Monitoring</b>	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)
<b>Medication Adherence</b>	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).
<b>Utilization</b>	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).

### 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)