West Virginia Medicaid
Asthma Disease Management

Educational RetroDUR Mailing	☑Initial Study ❑Follow – up /Restudy

Executive Summary

Purpose:	To determine opportunities for improving the safety and efficacy of drug therapy for patients with asthma.	
Why Issue was Selected:	When asthma is diagnosed and treated properly, morbidity can be minimized and health care costs associated with morbidity can be decreased. Inadequate medical management of asthma increases overall medical costs and decreases the patient's quality of life. Poor control of asthma results in lost work/school days, and increased emergency department visits or hospitalizations.[1,2]	
Program Specific Information:	Performance Indicators	Exceptions
	• Overutilization of short-acting beta$_2$-agonist inhalers	396
	• Overutilization of short-acting beta$_2$-agonist nebulizers	198
	• Underutilization of inhaled corticosteroids	345
	• Use of long-acting beta$_2$-agonists as first-line control therapy	36
	• Use of long-acting beta$_2$-agonist products without short-acting beta$_2$-agonist inhaler therapy	104
	• Increased risk of adverse drug events with asthma therapy	1,884
	• Asthma medication non-adherence	3,157
	• Duplicate therapy with long-acting beta$_2$-agonist inhaler products	24
	• Underutilization of influenza vaccine	8,279
Setting & Population:	All patients with a history of asthma in the last 2 years.	
Types of Intervention:	Cover letter and individual patient profiles.	

Main Outcome Measures:	Re-measure of performance indicators.
Anticipated Results:	• Optimization of asthma therapy (increase in asthma control therapy, decrease in overutilization of short-acting beta$_2$- agonist therapy) • Decreased use of long-acting beta$_2$-agonist therapy (LABA) as first-line control therapy • Decrease in LABA therapy without short-acting beta$_2$-agonist (SABA) therapy • Decrease in drug-disease state interactions with asthma therapy • Increase in asthma medication adherence • Decrease in duplicate asthma therapy • Increase in influenza vaccination

Performance Indicator #1: Overutilization of Short-Acting Beta$_2$-Agonist Inhalers

Why has this indicator been selected?	Inhaled SABAs are the recommended quick-relief treatment of choice to alleviate asthma symptoms and prevent exercise-induced bronchospasm (EIB). However, increasing SABA use or use on two or more days per week to relieve asthma symptoms (not for prevention of EIB) may indicate inadequate asthma control and the need for initiation or optimization of anti-inflammatory therapy (e.g., inhaled corticosteroids).[1,2]
How will the patients be selected ?	
Candidates (denominator):	All patients receiving a SABA during the last 60 days.
Exception criteria (numerator):	Candidates receiving >/= 3 SABA inhalers in the last 120 days.

Performance Indicator #2: Overutilization of Short-Acting Beta$_2$-Agonist Nebulizers

Why has this indicator been selected?	SABA nebulizers have been shown in studies to be as effective as metered dose inhalers (MDIs), and are the delivery method of choice for children and other patients who are unable to use MDIs (e.g., elderly, degenerative joint disease patients, paralysis patients).[1,2] Two types of patients will be identified: 1) those who may be candidates for MDI use and 2) those who have reasons for nebulizer use, but are utilizing doses that may suggest inadequate asthma control.
How will the patients be selected ?	Exclusions: • Patients with history of cystic fibrosis • Patients < 12 years of age • Patients on ventilators
Candidates (denominator):	a) Patients > 76 years of age b) Patients > 12 years of age with history of any of the following conditions in the last 2 years:

	• Degenerative joint disease • Alzheimer's disease • Dementia • Paralysis/paraplegia/quadriplegia • Parkinson's disease c) Patients > 12 years without history of any of the conditions previously listed in the last 2 years
Exception criteria (numerator):	1) Candidates defined in bullet point a) receiving >/= 2 or more SABA nebulizer claims with the following quantities: a. Albuterol 0.5% solution for nebulization – 200 mL in past 60 days (~ 6 nebulizer treatments/day) b. Albuterol 0.021%, 0.042%, Albuterol 0.083% solution for nebulization – 1080 ml in past 60 days (6 nebulizer treatments/day) c. Levalbuterol 0.31mg/3ml, 0.63mg/3ml, 1.25mg/3ml - 1080 ml in the past 60 days (6 nebulizer treatments/day) 2) Candidates defined in bullet point **b)** meeting the same as exception criteria in #1 3) Candidates defined in bullet point **c)** receiving SABA nebulizer solutions (with or without previous MDI use)

Performance Indicator #3: Underutilization of Inhaled Corticosteroids

Why has this indicator been selected?	Inhaled corticosteroids (ICSs) are the most effective and are preferred for first-line control therapy for asthma. Cromolyn, leukotriene modifiers, nedocromil, and sustained released theophylline are considered alternative therapy.[1,2]
How will the patients be selected ?	
Candidates (denominator):	Patients with a history of asthma in the last 2 years receiving cromolyn, leukotriene modifiers, nedocromil, or sustained released theophylline without an ICS in the last 45 days.
Exception criteria (numerator):	1) Candidates who have had >/= 2 or more emergency department visits or hospitalizations for asthma* in the last 365 days of claims history. - or - 2) Candidates with >/= 2 SABA claims or >/= 3 or more packs of a SABA in the last 120 days. *place of treatment codes must be provided by the client, otherwise only candidates meeting the quantities on inhaled SABAs can be evaluated for this indicator.

Performance Indicator #4: Use of Long-Acting Beta$_2$-Agonists as First-Line Control Therapy

Why has this indicator been selected?	Because LABA therapy can increase the risk of severe asthma exacerbations and death in some patients with asthma, the use of a LABA is contraindicated without the use of an asthma controller, such as an ICS.[3,4] Asthma treatment guidelines recommend ICS therapy as the preferred controller in patients with persistent asthma.[2] If low dose inhaled corticosteroids provide inadequate relief, the option to increase the ICS dose should be given equal weight to the addition of a LABA. Additionally, LABAs should only be used long-term in patients whose asthma cannot be adequately controlled on asthma controller medications.[2-4]

How will the patients be selected ?	
Candidates (denominator):	Patients with a history of asthma receiving a LABA-containing product in the last 45 days.
Exception criteria (numerator):	1) For candidates taking a LABA: no history of ICS therapy within the most recent 45 days. - or - 2) For candidates taking a LABA/Steroid combination inhaler: • No history of a LABA/Steroid combination inhaler prior to the most recent 45 days of claims history • No history of other control therapies within the last 45 days for patients.

Performance Indicator #5: Use of Long-Acting Beta$_2$-Agonist Products without Short-Acting Beta$_2$-Agonist Inhaler Therapy

Why has this indicator been selected?	Since LABAs have a slower onset of action (up to 20 minutes) than SABAs, they should not be used to relieve sudden-onset asthma symptoms. All patients should have a rescue inhaler (e.g., albuterol) with a fast onset of action available to treat sudden-onset asthma symptoms.[2-4]
How will the patients be selected ?	
Candidates (denominator):	Patients receiving a LABA-containing product in the last 90 days.
Exception criteria (numerator):	Candidates without a claim for an inhaled or nebulized SABA product within the last year.

Performance Indicator #6: Increased Risk of Adverse Drug Events with Asthma Therapy

Why has this indicator been selected?	1) When theophylline is used by patients with certain medical conditions, there is an increased risk of worsening control of the conditions or increasing the potential of theophylline toxicity.[5] 2) Using beta-blockers may worsen respiratory function in patients with asthma, especially with noncardioselective beta-blockers.[5]
How will the patients be selected ?	
Candidates (denominator):	1) Patients receiving a theophylline-containing product in the last 90 days. 2) Patients with a history of asthma (submitted ICD-9 diagnosis code for asthma or inferred from drug therapy) in the last 2 years.
Exception criteria (numerator):	1) Candidates with a history of the following conditions in the last 2 years unless specified: • Peptic ulcer disease (last 90 days) • Seizure disorder • Cardiac arrhythmias • Pulmonary edema • Congestive heart failure • Cor pulmonale

	• Liver disease 2) Candidates receiving a noncardioselective beta-blocker in the last 90 days with at least 7 days of therapy.

Performance Indicator #7: Asthma Medication Non-Adherence

Why has this indicator been selected?	Non-adherence with prescribed daily dosing regimens can either result in asthma symptom exacerbation or can erroneously lead the clinician to believe the patient requires a higher daily dose to achieve adequate control.[1,2]
How will the patients be selected ?	
Candidates (denominator):	Patients receiving asthma therapy with theophylline (or its analog), a leukotriene modifier or ICS during the last 135 days. To ensure the patient was receiving chronic therapy, they must have received some drug during the initial 45 day period and the last 45 day period.
Exception criteria (numerator):	Candidates with less than 60 days of theophylline, leukotriene modifier, or ICS (MDI or nebulized) therapy in the last 90 days.

Performance Indicator #8: Duplicate Therapy with Long-Acting Beta$_2$-Agonist Inhaler Products

Why has this indicator been selected?	Duplicate LABA or orally inhaled steroid therapy has the potential to increase the risk of adverse drug events without a corresponding increase in efficacy.
How will the patients be selected ?	
Candidates (denominator):	Patients receiving a LABA or LABA/steroid combination inhaler during the last 60 days.
Exception criteria (numerator):	Candidates with >/=35 or more days of the following overlapping therapy: • multiple salmeterol-containing products • multiple formoterol-containing products • LABA/steroid combination inhaler with an ICS or LABA

Performance Indicator #9: Underutilization of influenza vaccine

Why has this indicator been selected?	Persons with asthma are at risk for severe complications of influenza. The ACIP recommends that all adults and children with asthma >/= 6 months of age receive vaccination against influenza annually unless contraindications exist.[6,7]
How will the patients be selected ?	
Candidates (denominator):	Patients >/= 2 years of age with a history of asthma in the last 730 days.
Exception criteria (numerator):	Candidates without a pharmacy or medical claims for an influenza vaccination within the last 365 days.

References

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