Asthma Management

Document Title: Asthma Management		
Index #: HLN.P.005	Created by: Pediatric Leader Committee	Approved by: Pediatric Leader CPC & QCCC
Effective Date: 6/20/2016	Last Revision date: 8/20/2021	Last Review Date: 7/25/2022
Supporting Documents:		Next Review Date: Q4 2023

Purpose:

To promote optimal management and quality of life for patients diagnosed with asthma, HLN would like providers to have the most up to date information relevant to asthma therapy and management. Guidelines listed within this standard may be utilized as both a resource and guide for all clinicians. These recommendations are meant to assist and not replace the clinical decision-making required for individual patient management while considering shared decision making, optimal care and therapeutic cost considerations for patients with a current or suspected asthma related diagnosis.

Asthma Medication Ratio:

HEDIS asthma medication ratio (AMR) is a quality-of-care indicator for patients with a diagnosis of persistent asthma between the ages of 5-17 years. The quality indicator will measure patients with persistent asthma and had a ratio of controller medications to total asthma medications of 50% or greater during the measurement year. Patients with a ratio <0.5 have been shown to be at higher risk for asthma related emergency department visits and hospitalizations.

What defines "Persistent Asthma" according to HEDIS?

- At least 1 ER visit with a principal diagnosis of asthma
- At least 1 acute inpatient encounter with a principal diagnosis of asthma
- At least 1 inpatient discharge with a principal diagnosis of asthma via discharge claim
- At least 4 outpatient visits, observation visits, telephone visits, or e-visit/virtual check-ins, on different dates of service, with any diagnosis of asthma and at least 2 asthma medication dispensing events for any controller or reliever medication
- Examples of persistent asthma codes: J45.30-32, refer to coding section below

ICD-10-CM Codes to Address Asthma:

Asthma	J45.20-J45.22
Mild Intermittent Asthma	J45.30-J45.32
Moderate Persistent Asthma	J45.40-J45.42
Severe Persistent Asthma	J45.50-J45.52
Other and Unspecified Asthma	J45.901, J45.902, J45.909, J45.991, J45.998

Reference: HEDIS and NCQA

AMR Measure Exclusions:

- Acute Respiratory Failure
- COPD
- Chronic Resp conditions due to fumes/vapors
- Cystic fibrosis
- Emphysema
- Obstructive chronic bronchitis
- Other emphysema
- Members who were not prescribed asthma medications any time during the measurement year
- Members in hospice or utilizing hospice services during the measurement year
  *The only asthma code not considered persistent asthma is J45.20 (mild intermittent asthma, uncomplicated).

HLN Best Practice Recommendations:

- Ensure proper coding of asthma diagnosis, avoid coding asthma for diagnosis of asthma-like symptom.
- Assess fill history to ensure more controller medications than rescue medications are utilized to control asthma (i.e., rescue meds have 50 percent less usage than preventative meds), if the patient is filling their prescribed albuterol inhaler twice more than the controller medication recommend addressing as this indicates asthma is uncontrolled.
    - Assess medication adherence for inhalers by using the adherence column feature within Med Management section in Epic Ambulatory (click the wrench, choose columns, select adherence (dispenses), and click accept).
- Verify that at least half of the medications dispensed to treat asthma are controller mediations throughout the treatment/measurement period. Educate patients on the difference between long-acting or controller medications vs rescue medications and proper use of medications to treat their asthma
- Spacers are highly recommended for use with pMDIs, face masks can be used below the age of 3 years, the elderly and infirm, and those with compromised comprehension or manual dexterity. Such patients can be given their medication by their family members or care givers using the pMDI–spacer/VHC combination. https://www.lung.org/lung-health□diseases/lung-disease-lookup/asthma/patient-resources-and-videos/videos/how-to-use-a□metered-dose-inhaler
- Completion of Asthma Action Plan rolling 12 months
- Completion of Asthma Control Test yearly and recommended for sick related visits
- Utilization of the Epic SmartPhrase – .INHPHARMINSTRUCTIONS – for inhaled medication, a note to the pharmacist to instruct patients on proper usage of inhaler. This phrase should be placed in pharmacy instructions.

- Schedule follow-up appointment before patients leave office
- Utilize virtual visits and MyChart capabilities to optimize follow-up
- Patients with chronic conditions are at higher risk for complications from infections, promote yearly flu vaccine and other recommended vaccines.

Specialty Referral Recommendations:

- 2 or more ED visits for asthma-related symptoms within the previous year
- Frequent oral steroid exposure (>2 in the past year), co-morbid rhinitis, significant eczema
- If the diagnosis of asthma cannot be confidently confirmed, for children ≤5 years Global Initiative for Asthma Strategy suggests children in this age range receive further diagnostic investigations if there is a very early onset of symptoms, failure to respond to treatment or features suggesting alternative diagnosis (e.g., hypoxemia, finger clubbing, failure to thrive)
- Occupational asthma is suspected
- The patient has any risk factors for asthma-related death
- Symptoms or exacerbations remain uncontrolled despite medium/high-dose ICS-long-acting ß2 – agonist
- The patient needs urgent healthcare or oral corticosteroids more than once per year. Evidence or high risk of treatment side effects
- Food allergy is suspected
- Asthma education referral to BREATHE Project https://ldh.la.gov/breathe-enroll

Asthma Medication Ratio (AMR) Medications:

When clinically appropriate, consider prescribing the highlighted medications for lower cost generic options.
*Refer to the HLN Asthma/COPD formulary chart for payor level information found on the Epic clinician sidebar, HLN links tab.

Asthma Controller Medications		
Omalizumab (Xolair)	Dupilumab (Dupixent)	Benralizumab (Fasrena)
Mepolizumab (Nucala)	Reslizumab (Cinqair)	Budesonide - Formoterol (Symbicort)
Fluticasone - Salmeterol (Advair, Airduo, Wixela)	Fluticasone - Vilanterol (BREO)	Formoterol - Mometasone (Dulera)
Beclometasone (QVAR)	Budesonide (Pulmicort)	Ciclesonide (Alvesco)
Fluticasone (Flovent, Arnuity)	Mometasone (Asmanex)	Montelukast
Zafirlukast	Zileuton	Theophylline

Asthma Rescue Medications	
Albuterol	Levalbuterol

Process Measures	Outcome Measures
☐ Population: HLN Members with Dx of Asthma ☐ Asthma Medication Ratio Payor Performance ☐ Asthma Control Test: % Completion yearly, Target 50% ☐ Asthma Action Plan: % Completion rolling 12 months, Target 50%	☐ ED utilization with Asthma as primary diagnosis ☐ Inpatient hospital admission with Asthma as primary diagnosis

Ongoing Program Evaluation and Enhancement:

In accordance with the HLN Ongoing Quality Management Process policy, the HLN Adult & Pediatric Leader Committees with support of the HLN Quality & Care Coordination Committee will:

- Monitor performance of Asthma Medication Ratio measure through payer performance
- Evaluate the effectiveness of the recommendations
- Recommend changes to further improve the management of patients with asthma and/or persistent asthma

Supporting Evidence:

- National Committee for Quality Assurance. HEDIS & performance measurement. http://www.ncqa.org/HEDISQualityMeasurement.aspx. Accessed March 10, 2014
- NIH Guidelines for the Diagnosis and Management of Asthma 2007 (EPR-3)
- 2020 Focused Updates to the Asthma Management Guidelines: NIH Publication No. 20-HL-8142 December 2020. The full-length report, 2020 Focused Updates to the Asthma Management Guidelines: A Report from the National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group, can be accessed at nhlbi.nih.gov/asthmaguidelines. https://ginasthma.org/wp-content/uploads/2020/04/GINA-2020-full-report_-final-_wms.pdf
- 2020 Focused Updates to the Asthma Management Guidelines: A Report from the National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group | NHLBI, NIH
- Vincken W, Levy ML, Scullion J, Usmani OS, Dekhuijzen PNR, Corrigan CJ. Spacer devices for inhaled therapy: why use them, and how? ERJ Open Res. 2018 Jun 18;4(2):00065-2018. doi: 10.1183/23120541.00065-2018. PMID: 29928649; PMCID: PMC6004521.
- EpicCare Ambulatory, "Find Out Which Patients Are Picking Up Their Meds with Medication Adherence Scoring"(effective 8/07/2019)

- Louisiana Department of Health, “Breathe Program” https://ldh.la.gov/breathe-enroll2022

Appendix

GREEN ZONE

Controller:
Advair Diskus (fluticasone/salmeterol) – 100/50 mcg, 250/50 mcg, 500/50 mcg
Advair HFA (fluticasone/salmeterol) – 45/21 mcg, 115/21 mcg, 231/21 mcg
Asmanex HFA (mometasone) – 100 mcg, 200 mcg
Asmanex Twisthaler (mometasone) – 110 mcg, 220 mcg
Dulera HFA (mometasone/formoterol) – 100/5 mcg, 200/5 mcg
QVar RediHaler (beclomethasone) – 40 mcg, 80 mcg
Flovent Diskus (fluticasone) – 50 mcg, 100 mcg, 250 mcg
Flovent HFA (fluticasone) – 44 mcg, 110 mcg, 220 mcg
Pulmicort Flexhaler (budesonide) – 90 mcg, 180 mcg
Pulmicort Respules (budesonide) – 0.25 mg, 0.5 mg, 1 mg
Symbicort HFA (budesonide/formoterol) – 80/4.5 mcg, 160/4.5 mcg

Other Medication:
Accolate tab (zafirlukast) – 10 mg, 20 mg
Singulair chewable (montelukast) – 4 mg, 5mg, 10 mg
Singulair granule (motelukast) – 4 mg (per pack)
Singulair Tab (montelukast) – 10 mg
Zyflo tab (zileuton) – 600 mg

Pre-Exercise Medication: (take 10-15 minutes prior to activity)
Albuterol HFA (ProAir, Proventil, Ventolin) – 90 mcg
Albuterol inhaled – 0.63 mg, 1.25 mg, 2.5 mg, 5 mg (per 3 mL)
Xopenex HFA (levoalbuterol) – 45 mcg
Xopenex inhaled (levoalbuterol) – 0.32 mg, 0.63 mg, 1.25 mg (per 3 mL)

YELLOW ZONE

Quick-relief or rescue medication:
Albuterol HFA (ProAir, Proventil, Ventolin) – 90 mcg
Albuterol inhaled – 0.63 mg, 1.25 mg, 2.5 mg, 5 mg (per 3 mL)
Atrovent HFA (ipratropium) – 17 mcg
Ipratropium/Albuterol inhaled (DuoNeb) – 0.5/2.5 mg (per 3 mL)
Xopenex HFA (levoalbuterol) – 45 mcg
Xopenex inhaled (levoalbuterol) – 0.32 mg, 0.63 mg, 1.25 mg (per 3 mL)

Other Medication:
Atrovent HFA (ipratropium) – 17 mcg
Ipratropium/Albuterol inhaled (DuoNeb) – 0.5/2.5 mg (per 3 mL)

Steroids:
Deltasone tab (prednisone) – 20 mg
Decadron tab (dexamethasone) – 0.5 mg, 0.75 mg, 4 mg, 6 mg
Millipred tab (prednisolone) – 5mg
Millipred liquid (prednisolone) – 10mg/5mL
Orapred liquid (prednisolone) – 15mg/5ml
Orapred ODT (prednisolone) – 10 mg, 15 mg, 30 mg
Prelone liquid (prednisolone) – 15mg/5mL
Solumedrol tab (methylprednisolone) – 4 mg, 8 mg, 16 mg, 32 mg
Veripred 20 liquid (prednisolone) – 20mg/5mL

RED ZONE

Quick-relief or rescue medication:
Albuterol HFA (ProAir, Proventil, Ventolin) – 90 mcg
Albuterol inhaled – 0.63 mg, 1.25 mg, 2.5 mg, 5 mg (per 3 mL)
Atrovent HFA (ipratropium) – 17 mcg
Ipratropium/Albuterol inhaled (DuoNeb) – 0.5/2.5 mg (per 3 mL)
Xopenex HFA (levoalbuterol) – 45 mcg
Xopenex inhaled (levoalbuterol) – 0.32 mg, 0.63 mg, 1.25 mg (per 3 mL)

Developed by Dr. Andres CarrionVargas

Inhaled Medications:
- Generally, inhaled medications are preferred over oral medications with the hope that topical medications offer effectiveness with less risk for systemic side effects.
- Choosing the appropriate inhalation device and technique for each child is critical for success and changes as children age.
- Metered-dose inhalers (MDIs) with spacer device have replaced nebulizer machines because MDIs are more portable, quicker, and easier to use. Many more medications are available in the form of MDIs. With adequate technique, equal or more medication can be delivered through MDIs than with nebulizer machines.
- In some situations, nebulized medications are the used method to deliver an antibiotic, bronchodilator, or steroid.
- Dry-powder inhalers can be considered for teenagers and adults.
- Inhalation technique and equipment maintenance should be frequently reviewed.

Corticosteroid trial:
- Inhaled bronchodilator with beta-agonist (albuterol) is the initial treatment for relief of acute wheezing, cough, and difficulty breathing. Repeating use when needed is appropriate, but a bronchodilator has no disease-modifying properties beyond relief of acute symptoms.
- A systemic (oral) corticosteroid is a disease modifying, since it decreases inflammation, which secondary decreases airway hyperresponsiveness.
- If sufficient symptomatic (troublesome cough or labored breathing), clear with a short course of an oral corticosteroid; follow up closely and start an inhaled corticosteroid at the first sign of symptoms returning in the absence of an apparent viral respiratory illness.
- A trial of inhaled corticosteroid therapy can also help support the diagnosis of asthma. It can be tried for 2-3 months. And if symptoms relapse, it may need to be continued longer.
- To achieve success in the long-term management of asthma, it is crucial to identify and decrease exposure to allergens and irritants that can trigger exacerbation or increased asthma symptoms.

Relievers (low-dose ICS–formoterol or SABA) contain rapid-onset bronchodilators. They are used "as needed" (i.e., for quick relief of symptoms, including during exacerbations). Using ICS–formoterol as a reliever (often called an "anti-inflammatory reliever" or "AIR") also reduces the risk of severe exacerbations, compared with a SABA reliever, both with or without maintenance controller treatment. SABA or ICS–formoterol is also recommended before exercise if needed to prevent exercise-induced bronchoconstriction. For patients with exercise-induced bronchoconstriction, prescribe ICS-containing controller treatment and advise sufficient warm-up before exercise. Patients using as-needed ICS–formoterol as their reliever (Track 1) can use the same medication before exercise, if needed, and do not need a SABA inhaler. Pre-exercise ICS–formoterol avoids this risk and is as effective as daily ICS plus pre-exercise SABA in reducing exercise-induced bronchoconstriction. (Global Initiative for Asthma Strategy 2021 - Am J Respir Crit Care Med Vol 205, Iss 1, pp 17–35, Jan 1, 2022)

Can use Symbicort (2 puffs) or Albuterol (4 puff) as needed (up to every 4 hours) for increase pulmonary symptoms following the Asthma Action Plan. Symbicort will not be on your Asthma Action Plan today. It can be used every 4 hours as needed. (max 12 puffs in a day)

Developed by Dr. Andres CarrionVargas

Document Title: Standards of Care for Childhood Asthma Management		
Index #: HLN.P.005	Created by: Pediatric Leader Committee	Approved by: Pediatric Leader Committee & QCCC
Effective Date: 6/20/2016	Last Revision date: 8/20/2021	Last Review Date: 8/20/2021
Supporting Documents:		Next Review Date Q4 2021

MODIFICATION HISTORY

Type	Revised By	Revised Date	Approval Date *(If Applicable)*	Notes
Initial Revision		3/17/17		Document marked as DRAFT #1 Added "if available" to certified asthma program #4 Removed "or allergy/immunology" Combined Patients ages 5-11 and Patient ages 12 years or older #5 Removed Care Mgmt. referral section
FINAL with revisions		3/28/17		Removed "on" before the word information from Childhood Asthma Guidelines. #1 removed persistent asthma is newly diagnosed or. #2 added "for asthma" #4 changed sufficient to insufficient #4 added "consider co-management with allergy/immunology
Update		6/23/17		Updated to newly approved Marketing template
Modification & Review		10/24/17		Added: #3 bullet added "at each visit, the Asthma Control Test for children ages 4 and older is recommended"; And review date 4Q2018
Modification & Review		9/25/18		Reviewed & approved by committee with the below modifications: Asthma Control Test for children ages 4 – 17 yrs. are recommended. Process Measures: • Completion of Asthma Action Plan • Completion of Asthma Control Test Outcome Measures: • ED utilization with Asthma as primary diagnosis Inpatient hospital admission with Asthma as primary diagnosis
Modification		12/3/19		Changed header verbiage from "next review date" to "last review date". Changed verbiage from "process measures" to "Recommended Best Practice" Added verbiage "at every visit" to Asthma Control Test
Modification		2/11/20		Added as a best practice: Utilization of the Epic SmartPhrase – INHPHARMINSTRUCTIONS – (for inhaled medication, a note to the pharmacist to instruct patients on proper usage of inhaler. This phrase should be placed in pharmacy instructions).
Reformatting and rewording of standard		2/11/21		Purpose: unchanged; Childhood Asthma Guideline section updated with 2020 Focused update verbiage; HLN Expectation: deleted Franciscan Medical Group Standards of Care for Childhood Asthma Mgmt., reworded section; Replaced previous "Guidelines for Childhood Asthma Management" with Six (6) new guidelines. Recommended Best Practice: unchanged; Added Measurement Plan table; Added Ongoing Program Evaluation and Enhancement; Added Supporting Evidence.
Modification		8/20/21		Updated Process Measure Section to clarify time frame requirements for Asthma Control Test every visit and Asthma Action Plan rolling 12 months
Modification and Review		7/25/22	10/4/22	Aligned with HEDIS specs for "Asthma Medication Ratio" measure; updated HLN Best Practice Recommendations; added Specialty Referral Recommendations; included new table outlining Asthma Controller and Rescue Medications placed into the AMR measure; Appendix OLOLCH Medication list from Dr. CarrionVargas