CENTENE PHARMACY AND THERAPEUTICS
THERAPEUTIC CLASS MATRIX
GPI Code 44: Antiasthmatic and Bronchodilator Agents
1Q18 January - February

Review Time Frame: November 2016 – October 2017

Background:
The goal of an anti-asthmatic agent is to minimize the intensity and frequency of asthma symptoms. Bronchodilators work to improve symptoms, exercise capacity, and airflow limitation for patients suffering from obstructive airway disease. There are several classes of anti-asthmatic and bronchodilator agents distinguished by their method of delivery and onset of action.

- Anti-inflammatory agents: work at surface of the mast cell to inhibit its degranulation.
- Bronchodilators: improve expiratory flow by altering the airway smooth muscle tone to result in improved expiratory flow via different mechanisms.
  - Sympathomimetics (beta-adrenergic agonists): work by stimulating receptors of the smooth muscle in the lungs, uterus, and vasculature supplying skeletal muscle
  - Anticholinergics: antagonize the action of acetylcholine by blocking muscarinic cholinergic receptors
  - Methylxanthines: relax the smooth muscle of the bronchial airways and pulmonary blood vessels
- Leukotriene modulators: interfere with the leukotriene pathway by antagonizing leukotriene receptors.
- Monoclonal antibodies: targets human interleukin (IL)-5, the major cytokine responsible for eosinophilic airway inflammation in patients with asthma which is responsible for the growth and differentiation, recruitment, activation, and survival of eosinophils; these agents inhibit IL-5 signaling, reducing the production and survival of eosinophils.
- Phosphodiesterase-4 (PDE4) inhibitors: inhibit the actions of PDE4 which block the hydrolysis and inactivation of cyclic adenosine monophosphate.
- Steroid inhalants: reduce the immediate and late-phase allergic responses associated with chronic bronchial asthma by decreasing IgE synthesis, increasing number of beta-adrenergic receptors on leukocytes, and decreasing arachidonic acid metabolism (which decreases the amount of prostaglandins and leukotrienes released).

New Drugs:

Date of Approval	Drug Name	FDA-Approved Indication(s)	Approval Type	Commercial Availability
01/27/17	Fluticasone propionate (ArmonAir Respiclick)	Maintenance treatment of asthma as prophylactic therapy in patients 12 years of age and older	☐ New entity ☒ New formulation ☐ New combination ☐ New indication ☐ First time generic ☐ New brand (existing agent)	☒ Yes ☐ No

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01/27/17	Fluticasone propionate/salmeterol xinafoate (AirDuo Respiclick)	Treatment of asthma in patients aged 12 years and older	☐ New entity ☐ New formulation ☒ New combination ☐ New indication ☐ First time generic ☐ New brand (existing agent)	☒ Yes ☐ No
03/17/17	Zileuton extended release (Zyflo CR)	Prophylaxis and chronic treatment of asthma in adults and children 12 years of age and older	☐ New entity ☐ New formulation ☐ New combination ☐ New indication ☒ First time generic ☐ New brand (existing agent)	☒ Yes ☐ No
08/03/17	Beclomethasone dipropionate (Qvar Redihaler)	Maintenance treatment of asthma as prophylactic therapy in patients 4 years of age and older	☐ New entity ☒ New formulation *(Breath-actuated inhaler)* ☐ New combination ☐ New indication ☐ First time generic ☐ New brand (existing agent)	☐ Yes ☒ No

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Date of Approval	Drug Name	FDA-Approved Indication(s)	Approval Type	Commercial Availability
09/18/17	Fluticasone furoate/umeclidinium bromide/vilanterol trifenatate (Trelegy Ellipta)	Long-term, once-daily, maintenance treatment of patients with chronic obstructive pulmonary disease (COPD), including chronic bronchitis and/or emphysema, who are on a fixed-dose combination of fluticasone furoate and vilanterol for airflow obstruction and reducing exacerbations in whom additional treatment of air flow obstruction is desired or for patients who are already receiving umeclidinium and a fixed-dose combination of fluticasone furoate and vilanterol.	☐ New entity ☐ New formulation ☒ New combination ☐ New indication ☐ New generic ☐ First time generic ☐ New brand (existing agent)	☒ Yes ☐ No

Discontinued Drugs:
None identified.

FDA Safety Warnings:
None identified.

REVIEW RECOMMENDATION
The following changes are recommended to the clinical guidance for this drug class based on recent approval of Symbicort for reducing the risk of COPD exacerbations and labeling update that occurred on September 11, 2017:

- Removal of the statement: “Symbicort is not currently FDA-approved to reduce the risk of COPD exacerbations”
- Modification of clinical guidance to state that “it would be clinically appropriate to provide equal access to Symbicort and Breo Ellipta or to require a trial of one before the other.”

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References:

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4. Vogelmeier CF, Criner GJ, Martinez FJ, et al. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2017 report. GOLD executive summary. Am J Respir Crit Care Med. March 2017;195(5):557-582. doi: 10.1164/rccm.201701-0218PP.
5. From the Global Strategy for the Diagnosis, Management, and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2017. Available from http://goldcopd.org.