HIGHMARK WHOLECARE

Chronic Obstructive Pulmonary Disease (COPD) Provider Toolkit

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Clinical Practice Guidelines

Global Initiative for Chronic Obstructive Lung Disease

Quality Measures

Use of Spirometry Testing in the Assessment and Diagnosis of COPD

The percentage of members 40 years of age and older with a new diagnosis of COPD or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis.

Pharmacotherapy Management of COPD Exacerbation

The percentage of COPD exacerbations for members 40 years of age and older who had an acute inpatient discharge or ED visit during the year and who were dispensed appropriate medications.

Two rates are reported:

1. Dispensed a systemic corticosteroid (or there was evidence of an active prescription) within 14 days of the event.
2. Dispensed a bronchodilator (or there was evidence of an active prescription) within 30 days of the event.

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Centers for Disease Control and Prevention Vaccines and Immunizations

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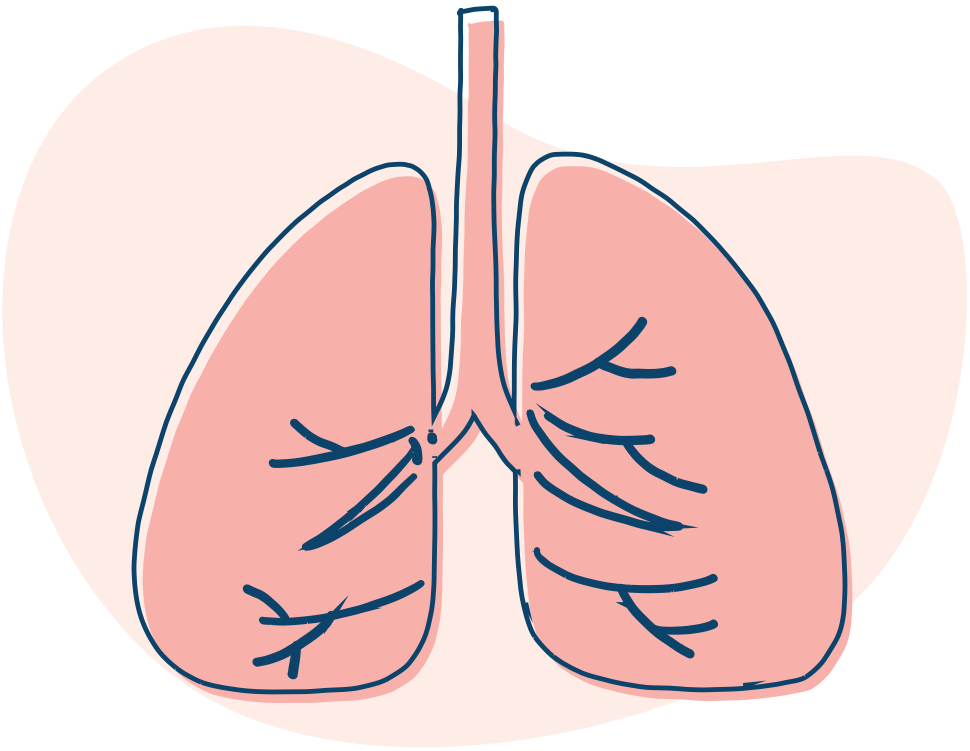


Common Definitions Associated with COPD

Chronic Obstructive Pulmonary Disease (COPD)

Is characterized by persistent respiratory symptoms and airflow limitation due to abnormalities in the airway.

The airways in the lungs become inflamed and thicken, and the tissue where oxygen is exchanged is destroyed. The flow of air in and out of the lungs decreases. When that happens, less oxygen gets into the body tissues, and it becomes harder to get rid of the waste gas carbon dioxide. As the disease progresses, shortness of breath makes it harder to remain active.

Symptoms of COPD include:

- Frequent coughing or wheezing
- Excess phlegm
- Mucus, or sputum production
- Shortness of breath and trouble taking a deep breath
- Frequent respiratory infections
- Blueness of the lips or fingernail beds

GOLD criteria to classify severity of airflow obstruction in COPD

COPD is diagnosed using spirometry to look at the amount of air forced out in the first second (FEV1) compared to the total amount of air expelled, or Forced Vital Capacity (FVC). A lower percentage may indicate airway obstruction.

Stage	Severity	Spirometry
GOLD 1	Mild	FEV1 ≥ 80% predicted
GOLD 2	Moderate	50% ≤ FEV1 < 80% predicted
GOLD 3	Serve	30% ≤ FEV1 < 50% predicted
GOLD 4	Very Severe	FEV1 < 30% predicted

Chronic Bronchitis

A chronic productive cough for at least three months. The airways in the lungs, called bronchial tubes, become inflamed causing a cough with mucus production. In chronic bronchitis, the lining of the airway is constantly inflamed. This causes the lining to swell and produce more mucus, which can make it hard to breathe.

Emphysema

Emphysema is destruction of the air sacs (alveoli) in the lungs that contribute to airflow limitation. Normally, alveoli are elastic or stretchy. In people with emphysema, the damage prevents the alveoli to function normally.

Symptoms of COPD include:

- Frequent coughing or wheezing
- A cough that produces a lot of mucus
- Shortness of breath
- A whistling or squeaky sound when breathing
- Chest tightness

Exacerbation

When symptoms of COPD suddenly get worse. Often called COPD attacks or flare-ups.

Dyspnea

Shortness of breath.

Pulmonary Rehabilitation

Rehabilitation program may include exercise, disease management training, and nutritional and psychological counseling. The program's goal is to help the patient stay active and carry out daily activities.

The team may include doctors, nurses, physical therapists, respiratory therapists, exercise specialists, and dietitians. These health professionals will create a program that meets the patient's specific needs.

Common Test Associated with COPD

Spirometry

A pulmonary function test to measure air flow limitation. For this test, the patient blows air into a mouthpiece and tubing attached to a small machine. The machine measures the amount of air that the patient blows out and how fast the patient can blow it.

Lung Volume Test

A lung volume measurement to identify the cause of reduced lung volume. This test measures the amount of air that can hold in the lungs and the amount of air that remains after exhaling. Also known as body plethysmography. Not needed in all people with COPD.

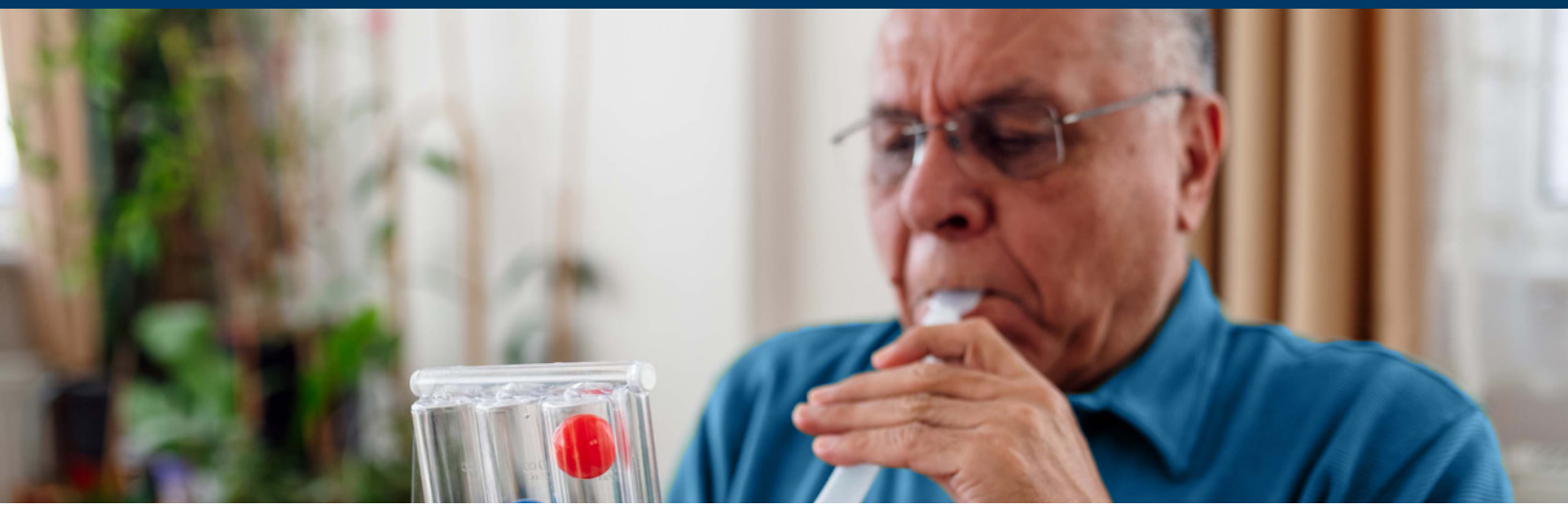
Gas Diffusion Test

This test measures how oxygen and other gases move from the lungs to the bloodstream.

Pulse Oximetry

A simple, quick and safe measure of the oxygen saturation level in the blood.

The pulse oximeter, or Pulse Ox, is an electronic device that measures the saturation of oxygen carried in the red blood cells. Pulse oximeters can be attached to the fingers, forehead, nose, foot, ears or toes.



Exercise Stress Test
This test looks at how exercise affects lung function.

Bronchoscopy
A technique used to look at the air passages and lungs. A small camera located at the end of a flexible tube inserted through the nose or mouth. Some tests may include the collection tissue samples for biopsies. The test is typically done on an outpatient basis. Bronchoscopy is done under "conscious" sedation.

Endobronchial Ultrasound (EBUS)
A technique that uses ultrasound with bronchoscopyto look at the walls of air passages and structures next to it. The EBUS scope has a video camera with an ultrasound probe attached to create local images of the lungs and nearby lymph nodes to accurately locate and evaluate areas seen on x-rays or scans that need a closer look.

Medications Used for the Treatment of COPD

Medications named and included in this toolkit are not an inclusive list of all medications and it is strongly suggested that the formulary be reviewed for additional information, such as quantity limits or prior authorization requirements. Formulary information may be found at: Medicaid Formulary Medications. Medications can cause side effects. Patients should be encouraged to talk with the prescriber of their medication or their pharmacist about their prescription including how to take it properly and what to do should they think they are experiencing a side effect.

Bronchodilators
Bronchodilators relax the muscles around the airways, which helps to keep them open and makes breathing easier. Most bronchodilators are often delivered through an inhaler or nebulizer. There are 2 classes of inhaled bronchodilators: beta agonists and muscarinic antagonists or anticholinergics.

Beta-Agonists:
Very powerful at relaxing tightened muscles around the airways. Relaxing the muscles opens the airway and makes breathing easier.

Beta-Agonists:
Prevents muscles around the airways from tightening to keep airways open and help clear mucus from the lungs. This allows coughing to expel mucus more easily. These inhalers are used daily, even if symptoms are not present.

Preferred Agents on the Statewide Preferred Drug List (PDL)

Short Acting:
Albuterol HFA
Albuterol Nebulizer Concentrate Solution
Albuterol Syrup
Atrovent HFA
Combivent Respimet
Ipratropium Nebulizer
Ipratropium-Albuterol Nebulizer

Long Acting:
Serevent Diskus
Anoro Ellipta
Bevespi Aerosphere
Spiriva Handihaler

Both classes come in short-acting and long-acting types:

- Short-acting: work within minutes, last 4-6 hours
- Long-acting: slow to start working but can last up to 12 to 24 hours

In addition to inhaled bronchodilators, theophylline is an oral bronchodilator also prescribed to prevent wheezing and shortness of breath.

Formulary Agents on supplemental formulary:
Theophylline ER tablets
Theophylline oral solution

Corticosteroids Inhaled

Decreases inflammation, leads to less swelling in the airways and mucus production, and makes it easier to breathe. They are usually inhaled with an inhaler device.

It is important to rinse out the mouth with water, gargle and spit after using this type of medication.

Preferred Agents on the Statewide Preferred Drug List (PDL)

Single-ingredient glucocorticoids:
Asamanex Twisthaler
Budesonide Respules
Flovent Diskus
Flovent HFA
Pulmicort Flexhaler

Glucocoticoid and long acting beta agonist combinations:
Advair HFA
Dulera
Fluticasone-Salmeterol
Symbicort

Corticosteroids Oral

May be used as a treatment for exacerbations or flare-ups. Medication acts fast and prescribed for short-term use (5-7 days).

Preferred Agents on the Statewide Preferred Drug List (PDL)
Methylprednisolone Dose Pack, Tablet
Prednisolone Sodium Phosphate Solution
Prednisolone Solution
Prednisolone Dose Pack, Solution, Tablet