



***ABIM Chronic Obstructive Pulmonary Disease  
(COPD) PIM™ Practice Improvement Module  
Measures Catalogue***

**Chronic Obstructive Pulmonary Disease (COPD) PIM  
Measures Catalogue  
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## Introduction

This catalogue provides information related to the American Board of Internal Medicine's Chronic Obstructive Pulmonary Disease Practice Improvement Module®. It is written in language that addresses the physician who might choose to complete this module, and it details the specifics of the module. Included is information regarding:

- Purpose and structuring of the module
- Patient inclusion criteria
- Detailed description of the measures

This PIM examines the care you provide to your patients by addressing key processes and outcomes related to COPD. These are based primarily on guidelines from the Global Initiative for Chronic Obstructive Lung Disease, the Centers for Disease Control, the American College of Physicians (ACP), and the American Thoracic Society (ATS).

The PIM is divided into three parts, with multiple sections in each part.

### Part 1 -Performance Data

Provide baseline data about your practice's current performance by...

- Reviewing your charts
- Assessing your practice systems

The 32 chart review measures are summarized below. **ABIM requires a minimum of 25 chart reviews.** The practice systems assessment comprises questions covering various aspects of practice structure and protocols.

Patients can be **included** in this module if **all** of the following are true:

1. They are between the ages of 18 and 90 (inclusive) with a diagnosis of COPD;
2. Management decisions regarding COPD are made primarily by providers in the practice;
3. They have been patients in the practice for at least one year; *AND*
4. They have been seen by the practice within the past 12 months.

Patients should be **excluded** from this module if they have a terminal illness or treatment of their COPD is not clinically relevant.

### **Part 2 - Quality Improvement (QI) Plan**

Develop a plan for improving one aspect of your practice after reviewing the analysis of your current performance data. The analysis will include many aspects of care you provide to your patients. Ultimately, you will target only one of these to use in this quality improvement (QI) cycle.

### **Part 3 - Remeasurement**

Remeasure your performance data after you have implemented your QI plan to see if you achieved your goal. Then, you will reflect on the process of developing and implementing a QI plan.

You may claim CME credit for completing this activity. The University of Pennsylvania School of Medicine designates this educational activity for a maximum of 20 *AMA PRA Category 1 Credit(s)*<sup>TM</sup>.

**CHRONIC OBSTRUCTIVE PULMONARY DISEASE- PROCESSES OF CARE**

<b>Patient Evaluation</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Height documented	Patients in the sample with height documented	Number of patients in the sample who have height documented	Number of patients in the sample	Studies have shown that height loss increases the likelihood of osteoporosis of the hip and increases with the amount of height lost.
Weight documented	Patients in the sample with weight documented	Number of patients in the sample who have weight documented	Number of patients in the sample	Measuring body weight over time is a simple screen for nutritional adequacy and change in older adults. Nonvolitional weight loss may be predictive of mortality.
Blood pressure measured within 12 months of visit	Patients in the sample whose blood pressure (systolic/diastolic) was measured	Number of patients in the sample blood pressure (systolic/diastolic) was measured during the specified abstraction period (within 12 months of the visit date, with a three-month grace period), with date and value of the measurement documented	Number of patients in the sample	The detection and treatment of high blood pressure can reduce the risk of morbidity and mortality from coronary heart disease, stroke, and chronic kidney disease. It is important for specialists to refer patients back to their primary care physician for blood pressure management.
Respiratory symptoms documented	Patients in the sample whose respiratory symptoms at the most recent visit for COPD care were documented	Number of patients in the sample whose respiratory symptoms at the most recent visit for COPD care were documented	Number of patients in the sample	The management of patients with COPD is based on the control of symptoms. Asking about COPD symptoms is important to better assess the treatment plan.

<b>Smoking Status</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Smoking status documented within 12 months of visit	Patients in the sample whose smoking status was reviewed during the specified abstraction period (within 12 months of the visit date, with a three-month grace period)	Number of patients in the sample whose smoking status was reviewed during the specified abstraction period (within 12 months of the visit date, with a three-month grace period), with date and status documented	Number of patients in the sample	Cigarette smokers have a higher prevalence of respiratory symptoms and lung function abnormalities including COPD.
Smoking status documented at any time	Patients in the sample whose smoking status was reviewed	Number of patients in the sample whose smoking status was reviewed	Number of patients in the sample	Cigarette smokers have a higher prevalence of respiratory symptoms and lung function abnormalities including COPD.

<b>Diagnostic Testing</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Alpha 1 Antitrypsin	Patients in the sample who were eligible for and were tested for serum alpha 1-antitrypsin and whose result was documented. Patients were considered eligible if they had never smoked or their COPD symptoms began before age 50	Number of patients in the sample who were eligible for and who were tested for serum alpha1-antitrypsin and whose was documented. Patients were considered eligible if they had never smoked or their COPD symptoms began before age 50	Number of patients in the sample who had never smoked or whose COPD symptoms began before age 50	Studies have shown that in patients of Caucasian descent who develop COPD at a young age (<45 years) or who have a strong family history of the disease, it may be valuable to identify coexisting alpha-1 antitrypsin deficiency. A serum concentration of alpha-1 antitrypsin below 15-20% of the normal value is highly suggestive of homozygous alpha-1 antitrypsin deficiency.
Bone density testing	Patients in the sample who were eligible for and underwent bone density testing. Patients were considered eligible if they had been treated for COPD with continuous oral corticosteroids for three months or more within the past 12 months	Number of patients in the sample who were eligible for and underwent bone density testing. Patients were considered eligible if they have been treated for COPD with continuous oral corticosteroids for three months or more within the past 12 months	Number of patients who have been treated for COPD with continuous oral corticosteroids for three months or more within the past 12 months	Bone-density testing is recommended for patients taking oral corticosteroids for two months or more. These agents can decrease calcium absorption from food, increase calcium loss from the kidneys, and decrease bone formation. Corticosteroids also interfere with the production of sex hormones in both men and women, which contributes to bone loss, and they can cause muscle weakness, which can increase the risk of falling and fracture.
Spirometry	Patients in the sample who had spirometry and whose result was documented	Number of patients in the sample who had spirometry and whose result was documented	Number of patients in the sample	Spirometry is required to confirm the diagnosis of COPD. Spirometry is recommended as part of the initial patient evaluation, after therapy has begun and symptoms have stabilized, during times of increased symptoms and/or poor control, and at least every one to two years. More frequent testing may be appropriate for patients with severe asthma and those who have a poor response to therapy.

<b>Maintenance Treatment</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Inhaled short-acting bronchodilator	Patients in the sample who are currently prescribed an inhaled short-acting bronchodilator	Number of patients in the sample who are currently prescribed an inhaled short-acting bronchodilator	Number of patients in the sample	Bronchodilator medications are central to the symptomatic management of COPD. They are given on an as-needed basis or on a regular basis to prevent or reduce symptoms and exacerbations. Such drugs improve emptying of the lungs, tend to reduce dynamic hyperinflation at rest and during exercise, and improve exercise performance.
Inhaled long-acting bronchodilator for moderate, severe, and very severe patients	Patients in the sample who are eligible for and are currently prescribed an inhaled long-acting bronchodilator. Patients were considered eligible if they have a FEV1 < 80% predicted and have COPD symptoms	Number of patients in the sample who are eligible for and are currently prescribed an inhaled long-acting bronchodilator (combination inhaled long-acting beta agonist and inhaled corticosteroid or inhaled long-acting bronchodilator (without inhaled corticosteroid)). Patients were considered eligible if they have a FEV1 < 80% predicted and have COPD symptoms	Number of patients in the sample who have an FEV1 < 80% predicted and have COPD symptoms	Regular treatment with long-acting bronchodilators is more effective and convenient than treatment with short-acting bronchodilators.
Inhaled corticosteroid (without inhaled long-acting bronchodilator) (suboptimal care)	Patients in the sample who have moderate, severe, or very severe COPD and who are currently prescribed an inhaled corticosteroid without an inhaled long-acting bronchodilator. Patients were considered to have moderate, severe, or very severe COPD if their FEV1 was < 80% predicted and they had COPD symptoms. This is a marker of suboptimal care.	Number of patients in the sample who had moderate, severe, or very severe COPD and who are currently prescribed an inhaled corticosteroid without an inhaled long-acting bronchodilator. Patients were considered to have moderate, severe, or very severe COPD if their FEV1 was < 80% predicted and they had COPD symptoms. This is a marker of suboptimal care.	Number of patients in the sample whose FEV1 was < 80% predicted and who have COPD symptoms	Most studies have shown that regular treatment with inhaled glucocorticosteroids does not modify the long-term decline of FEV1 in patients with COPD.
Theophylline (without inhaled long-acting bronchodilator)	Patients in the sample who have moderate, severe, or very severe COPD and who are currently	Number of patients in the sample who have moderate, severe, or very severe COPD and who are	Number of patients in the sample whose FEV1 was < 80%	Treatment with a long-acting inhaled anti-cholinergic drug reduces the rate of COPD exacerbations and

<b>Maintenance Treatment</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
	prescribed theophylline without an inhaled long-acting bronchodilator. Patients were considered to have moderate, severe, or very severe COPD if their FEV1 was < 80% predicted and they had COPD symptoms. This is a marker of suboptimal care.	currently prescribed theophylline without an inhaled long-acting bronchodilator. Patients were considered to have moderate, severe, or very severe COPD if their FEV1 was < 80% predicted and they had COPD symptoms. This is a marker of suboptimal care.	predicted and who have COPD symptoms	improves the effectiveness of pulmonary rehabilitation. Theophylline is effective in COPD, but due to its potential toxicity, inhaled bronchodilators are preferred when available.
Leukotriene modifiers	Patients in the sample who are currently prescribed a leukotriene modifier This is a marker of suboptimal care.	Number of patients in the sample who are currently prescribed a leukotriene modifier. This is a marker of suboptimal care.	Number of patients in the sample	Leukotriene modifiers have not been adequately tested in COPD patients and cannot be recommended. There is no evidence of benefit and some evidence of harm (malignancy and pneumonia) from anti-TNF-alpha antibody (infliximab) tested in moderate to severe COPD.
Observation of proper inhaler technique	Patients in the sample who were reported as having been prescribed an inhaler and having observation of proper inhaler technique during the 12-month period prior to the visit date, with a three-month grace period	Number of patients in the sample who were reported as having been prescribed an inhaler and having observation of proper inhaler technique during the 12-month period prior to the visit date, with a three-month grace period	Number of patients in the sample who currently are prescribed an inhaler	Effective coordination and use of a simple metered-dose inhaler may be difficult for a patient with COPD. It is essential to ensure that inhaler technique is correct, and this should be rechecked at each visit.
Adverse effects of COPD medications documented	Patients in the sample with documentation of whether they have been experiencing adverse effects of COPD medications	Number of patients in the sample with documentation of whether they have been experiencing adverse effects of COPD medications	Number of patients in the sample	Each visit should include a discussion of the current therapeutic regimen. Dosages of various medications, adherence to the regimen, inhaler technique, effectiveness of the current regimen at controlling symptoms, and side effects of treatment should be monitored and documented.

<b>Maintenance Treatment</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Supplemental oxygen	Patients in the sample who are eligible for and who have been prescribed supplemental oxygen. Patients were considered eligible if their PaO <sub>2</sub> was ≤ 55 mm Hg or O <sub>2</sub> saturation ≤ 88% at rest, or they had cor pulmonale and PaO <sub>2</sub> was ≤ 59 mm Hg or O <sub>2</sub> saturation ≤ 89% at rest, or they had cor pulmonale and hematocrit was > 55%, or evidence of desaturation with exercise or sleep	Number of patients in the sample who are eligible for and who have been prescribed supplemental oxygen. Patients were considered eligible if their PaO <sub>2</sub> was ≤ 55 mm Hg or O <sub>2</sub> saturation ≤ 88% at rest, or they had cor pulmonale and PaO <sub>2</sub> was ≤ 59 mm Hg or O <sub>2</sub> saturation ≤ 89% at rest, or they had cor pulmonale and hematocrit was > 55%, or evidence of desaturation with exercise or sleep	Number of patients in the sample PaO <sub>2</sub> was ≤ 55 mm Hg or O <sub>2</sub> saturation ≤ 88% at rest, or cor pulmonale and hematocrit > 55%, or evidence of desaturation with exercise or sleep	A decision about the use of long-term oxygen should be based on the waking PaO <sub>2</sub> values. The long-term administration of oxygen (>15 hours per day) increases quality of life and helps people live longer when they have severe COPD and low blood levels of oxygen. Using oxygen may also improve confusion and memory problems. It may improve impaired kidney function caused by low oxygen levels.
Oxygen use for at least 15 hours per day	Patients in the sample who are eligible for and who have been prescribed oxygen use for at least 15 hours per day. Patients were considered eligible if their PaO <sub>2</sub> was ≤ 55 mm Hg or O <sub>2</sub> saturation ≤ 88% at rest, or they had cor pulmonale and PaO <sub>2</sub> ≤ 59 mm Hg or O <sub>2</sub> saturation ≤ 89% at rest, or they had cor pulmonale and hematocrit > 55%.	Number of patients in the sample who are eligible for and who have been prescribed oxygen use for at least 15 hours per day. Patients were considered eligible if their PaO <sub>2</sub> was ≤ 55 mm Hg or O <sub>2</sub> saturation ≤ 88% at rest, or they had cor pulmonale and PaO <sub>2</sub> ≤ 59 mm Hg or O <sub>2</sub> saturation ≤ 89% at rest, or they had cor pulmonale and hematocrit > 55%	Number of patients in the sample with PaO <sub>2</sub> ≤ 55 mm Hg or O <sub>2</sub> saturation ≤ 88% at rest, or cor pulmonale and PaO <sub>2</sub> ≤ 59 mm Hg or O <sub>2</sub> saturation ≤ 89% at rest, or cor pulmonale and hematocrit > 55%	The long-term administration of oxygen (>15 hours per day) increases quality of life and helps people live longer when they have severe COPD and low blood levels of oxygen. Using oxygen may also improve confusion and memory problems. It may improve impaired kidney function caused by low oxygen levels.

<b>Potential Overuse of Treatment</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Continuous oral corticosteroids (≥ three months)	Patients who have been treated for COPD with continuous oral corticosteroids for three months or more within the past 12 months. This is a marker of poor care.	Number of patients who have been treated for COPD with continuous oral corticosteroids for three months or more within the past 12 months. This is a marker of poor care.	Number of patients in the sample	The large body of evidence on side effects, long-term treatment with oral glucocorticosteroids is not recommended in COPD.
Prophylactic, continuous oral antibiotics	Patients who have been treated for COPD with prophylactic, continuous oral antibiotics within the past 12 months. This is a marker of poor care.	Number of patients who have been treated for COPD with prophylactic, continuous oral antibiotics within the past 12 months. This is a marker of poor care.	Number of patients in the sample	Prophylactic, continuous use of antibiotics has been shown to have no effect on the frequency of exacerbations in COPD. There is no current evidence that the use of antibiotics, other than treating infectious exacerbations of COPD and other bacterial infections, is helpful.

<b>Preventive Care</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Influenza vaccine during most recent flu season	Patients in the sample who were vaccinated for influenza during the most recent flu season	Number of patients in the sample who were vaccinated for influenza during the most recent flu season	Number of patients in the sample, excluding those who refused influenza vaccine or could not be vaccinated due to medical reasons	Influenza vaccine can reduce serious illness and death in COPD patients by 50%. Vaccines containing killed or live, inactivated viruses are recommended as they are more effective in elderly patients. The strains are adjusted each year for appropriate effectiveness and should be given once a year.
Pneumococcal vaccine	Patients in the sample who received pneumococcal vaccine	Number of patients in the sample who received pneumococcal vaccine	Number of patients in the sample, excluding those who refused pneumococcal vaccine or could not be vaccinated due to medical reason	Pneumococcal polysaccharide vaccine is recommended for COPD patients 65 years and older. Additionally, this vaccine has been shown to reduce the incidence of community-acquired pneumonia in COPD patients younger than 65 with an FEV1 <40% predicted.

<b>End of Life Care</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Patient's preferences for life-sustaining care are documented	Patients in the sample whose preferences for life-sustaining care were documented	Number of patients in the sample whose preferences for life-sustaining care were documented	Number of patients in the sample	Physicians routinely should discuss life-sustaining treatment decisions with their patients, particularly before the actual need for such care arises. Patients should be asked to designate a surrogate decision maker and to discuss their preferences with this person and with other family members and friends.
Patient's designated surrogate decision maker is documented	Patients in the sample whose designated surrogate decision maker was documented	Number of patients in the sample whose designated surrogate decision maker was documented	Number of patients in the sample	Physicians routinely should discuss life-sustaining treatment decisions with their patients, particularly before the actual need for such care arises. Patients should be asked to designate a surrogate decision maker and to discuss their preferences with this person and with other family members and friends.

<b>Counseling Provided</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Exercise advice	Patients in the sample who have documentation of counseling to start, increase, or maintain regular physical activity	Number of patients in the sample who have documentation of counseling to start, increase, or maintain regular physical activity	Number of patients in the sample	All COPD patients benefit from exercise training programs, improving with respect to both exercise tolerance and symptoms of dyspnea and fatigue. Patients with COPD also may have limited physical activity, particularly weight-bearing exercise that is known to strengthen bone.
Smoking-cessation support at most recent visit	Patients in the sample who are smokers and for whom smoking-cessation counseling or treatment was provided at the most recent visit	Number of patients in the sample who are smokers and for whom smoking-cessation counseling or treatment was provided at the most recent visit	Number of patients in the sample who are smokers	A number of large randomized clinical trials have demonstrated the efficacy and cost-effectiveness of smoking-cessation counseling in changing smoking behavior and reducing tobacco use. Health care providers are key to the delivery of smoking cessation interventions and should encourage all patients who smoke to quit at every visit.
Smoking-cessation support within past 12 months	Patients in the sample who are smokers and who received smoking-cessation counseling or treatment during the 12-month abstraction period or three months prior to the abstraction period	Number of patients in this sample who are smokers and for whom smoking-cessation counseling or treatment was documented during the 12-month abstraction period or three months prior to the abstraction period	Number of patients in the sample who are smokers	Smoking-cessation is the most effective intervention to reduce the risk of developing COPD.

<b>Types of Smoking Cessation Support</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Smoking cessation support: Brief advice	Patients in the sample who are smokers and who received brief advice as smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period	Number of patients in the sample who are smokers and who received smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period, and whose type of smoking-cessation support is brief advice	Number of patients in this sample who are smokers	Studies have shown that counseling by physicians and other health care professionals significantly increases quit rates over self-initiated strategies. A brief period of smoking cessation counseling to urge a smoker to quit has resulted in smoking cessation rates of 5-10%.
Smoking cessation support: Support within practice	Patients in the sample who are smokers and who received support within the practice as smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period	Number of patients in the sample who are smokers and who received smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period, and whose type of smoking-cessation support is support within the practice	Number of patients in this sample who are smokers	Smoking cessation advice from health care professionals has been shown to make patients more likely to stop smoking. A number of large randomized clinical trials have demonstrated the efficacy and cost-effectiveness of smoking-cessation counseling in changing smoking behavior and reducing tobacco use.
Smoking cessation support: Referral to program	Patients in the sample who are smokers and who received referral to a program as smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period	Number of patients in the sample who are smokers and who received smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period, and whose type of smoking-cessation support is referral to program	Number of patients in this sample who are smokers	Studies have shown that effective smoking cessation is the single most effective and cost effective way to reduce exposure to COPD risk factors including interventions such as self-help and group programs; and community based stop smoking challenges.

<b>Types of Smoking Cessation Support</b>				
<b>Measure Title</b>	<b>Description</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Rationale</b>
Smoking cessation support: Medication	Patients in the sample who are smokers and who received medication as smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period	Number of patients in the sample who are smokers and who received smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period, and whose type of smoking-cessation support is medication	Number of patients in this sample who are smokers	Often physicians have many contacts with a patient over time and have the opportunity to identify the need for supportive pharmacological treatment.
Smoking cessation support: Other	Patients in the sample who are smokers and who received some other smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period	Number of patients in the sample who are smokers and who received smoking-cessation counseling or treatment during the 12-month period prior to the visit date, with a three-month grace period, and whose type of smoking-cessation support is other	Number of patients in this sample who are smokers	Studies have shown that effective smoking cessation is the single most effective and cost effective way to reduce exposure to COPD risk factors including interventions such as self-help and group programs; and community based stop smoking challenges.

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