

292 Chronic Obstructive Pulmonary Disease

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Chronic obstructive pulmonary disease (COPD) is defined as a disease state characterized by persistent respiratory symptoms and airflow obstruction (<https://goldcopd.org/2021-gold-reports/>). COPD includes *emphysema*, an anatomically defined condition characterized by destruction of the lung alveoli with air space enlargement; *chronic bronchitis*, a clinically defined condition with chronic cough and phlegm; and/or *small airway disease*, a condition in which small bronchioles are narrowed and reduced in number. The *classic definition* of COPD requires the presence of chronic airflow obstruction, determined by spirometry, that usually occurs in the setting of noxious environmental exposures—most commonly products of combustion, cigarette smoking in the United States, and biomass fuels in some other countries. Host factors such as abnormal lung development and genetics can lead to COPD. Emphysema, chronic bronchitis, and small airway disease are present in varying degrees in different COPD patients. Patients with a history of cigarette smoking without chronic airflow obstruction may have chronic bronchitis, emphysema, and dyspnea. Although these patients are not included within the classic definition of COPD, they may have similar disease processes. Respiratory symptoms and other features of COPD can occur in subjects who do not meet a definition of COPD based only on airflow obstruction determined by spirometric population thresholds of normality. Investigators in the COPDGene study recently proposed a multidimensional approach to COPD diagnosis, which is based on domains of environmental exposures, respiratory symptoms, imaging abnormalities, and physiologic abnormalities.

COPD is the fourth leading cause of death and affects >10 million persons in the United States. COPD is also a disease of increasing public health importance around the world. Globally, there are an estimated 250 million individuals with COPD.