

Chronic obstructive pulmonary disease (COPD)

([https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-\(copd\)](https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-(copd)))

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Key facts

- **Chronic obstructive pulmonary disease (COPD) is the third leading cause of death worldwide, causing 3.23 million deaths in 2019.**
- **Nearly 90% of COPD deaths in those under 70 years of age occur in low- and middle-income countries (LMIC).**
- **Early diagnosis and treatment, including smoking cessation support, is needed to slow the progression of symptoms and reduce flare-ups.**
- **Environmental exposure to tobacco smoke, indoor air pollution and occupational dusts, fumes and chemicals are important risk factors for COPD.**
- **COPD results from long-term exposure to harmful gases and particles combined with individual factors, including events which influence lung growth in childhood and genetics.**
- **COPD causes persistent and progressive respiratory symptoms, including difficulty in breathing, cough and phlegm production.**

Overview

Chronic obstructive pulmonary disease (COPD) is a common, preventable and treatable chronic lung disease which affects men and women worldwide.

Abnormalities in the small airways of the lungs lead to limitation of airflow in and out of the lungs. Several processes cause the airways to become narrow. There may be destruction of parts of the lung, mucus blocking the airways, and inflammation and swelling of the airway lining.

COPD is sometimes called emphysema or chronic bronchitis. Emphysema usually refers to destruction of the tiny air sacs at the end of the airways in the lungs. Chronic bronchitis refers to a chronic cough with the production of phlegm resulting from inflammation in the airways.

COPD and asthma share common symptoms (cough, wheeze and difficulty breathing) and people may have both conditions.

Impact

Common symptoms of COPD develop from mid-life onwards, including:

- breathlessness or difficulty breathing
- chronic cough, often with phlegm
- tiredness.

As COPD progresses, people find it more difficult to carry out their normal daily activities, often due to breathlessness. There may be a considerable financial burden due to limitation of workplace and home productivity, and costs of medical treatment.

During flare-ups, people with COPD find their symptoms become much worse and they may need to receive extra treatment at home or be admitted to hospital for emergency care. Severe flare-ups can be life threatening.

People with COPD often have other medical conditions such as heart disease, osteoporosis, musculoskeletal disorders, lung cancer, depression and anxiety.

Causes

COPD develops gradually over time, often resulting from a combination of risk factors:

- tobacco exposure from active smoking or passive exposure to second-hand smoke;
- occupational exposure to dusts, fumes or chemicals;
- indoor air pollution: biomass fuel (wood, animal dung, crop residue) or coal is frequently used for cooking and heating in low- and middle-income countries with high levels of smoke exposure;
- early life events such as poor growth in utero, prematurity, and frequent or severe respiratory infections in childhood that prevent maximum lung growth;
- asthma in childhood; and
- a rare genetic condition called alpha-1 antitrypsin deficiency, which can cause COPD at a young age.

Reducing the burden of COPD

There is no cure for COPD, but early diagnosis and treatment are important to slow the progression of symptoms and reduce the risk of flare-ups.

COPD should be suspected if a person has typical symptoms, and the diagnosis confirmed by a breathing test called spirometry, which measures how the lungs are working. In low- and middle-income countries, spirometry is often not available and so the diagnosis may be missed.

There are several actions that people with COPD can take to improve their overall health and help control their COPD:

- stop smoking: people with COPD should be offered support to quit smoking;
- take regular exercise; and
- get vaccinated against pneumonia, influenza and coronavirus.

Inhaled medication can be used to improve symptoms and reduce flare-ups. There are different types of inhaled medication which work in different ways and can be given in combination inhalers, if available.

Some inhalers open the airways and may be given regularly to prevent or reduce symptoms, and to relieve symptoms during acute flare-ups. Inhaled corticosteroids are sometimes given in combination with these to reduce inflammation in the lungs.

Inhalers must be taken using the correct technique, and in some cases with a spacer device to help deliver the medication into the airways more effectively. Access to inhalers is limited in many low- and middle-income countries; in 2021 salbutamol inhalers were generally available in public primary health care facilities in half of low- and low-middle income countries.

Flare-ups are often caused by a respiratory infection, and people may be given an antibiotic or steroid tablets in addition to inhaled or nebulised treatment as needed.

People living with COPD must be given information about their condition, treatment and self-care to help them to stay as active and healthy as possible.

WHO response

COPD is included in the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases (NCDs) and the United Nations 2030 Agenda for Sustainable Development.

WHO is taking action to extend diagnosis of and treatment for COPD in a number of ways.

The WHO Package of Essential Noncommunicable Disease Interventions (PEN) was developed to help improve NCD management in primary health care in low-resource settings. PEN includes protocols for the assessment, diagnosis and management of chronic respiratory diseases (asthma and chronic obstructive pulmonary disease), and modules on healthy lifestyle counselling, including tobacco cessation and self-care.

Rehabilitation 2030 is a new strategic approach to prioritize and strengthen rehabilitation services in health systems. Pulmonary rehabilitation for COPD is included in the Package of Interventions for Rehabilitation, currently under development as part of this WHO initiative.

Reducing tobacco smoke exposure is important for both primary prevention of COPD and disease management. The Framework Convention on Tobacco Control is enabling progress in this area as are WHO initiatives such as MPOWER and mTobacco Cessation.

Further prevention activities include the WHO Clean Household Energy Solutions Toolkit (CHEST) to promote clean and safe interventions in the home and facilitate the design of policies that promote the adoption of clean household energy at local, programmatic and national levels.

The Global Alliance against Chronic Respiratory Diseases (GARD) contributes to WHO's work to prevent and control chronic respiratory diseases. GARD is a voluntary alliance of national and international organizations and agencies from many countries committed to the vision of a world where all people breathe freely.