



Chronic Obstructive Pulmonary Disease (COPD)

This metadata page provides a brief summary of this dataset. More detailed data and metadata may be available from the Louisiana Department of Health (LDH) Tracking Program. For more information, please refer to the contact information on the last page under 'Questions?'

Definition

Chronic Obstructive Pulmonary Disease (COPD) is a respiratory disorder that causes a blockage in air flowing through the lungs, leading to breathing problems. Symptoms of COPD include frequent coughing or wheezing, excess mucus formation, shortness of breath, and difficulty taking a deep breath. These symptoms are caused by the loss of elasticity or disintegration of the airway linings (as seen in emphysema), blocked airways due to heavy mucus production, or narrowing and inflammation of the airways (as seen in chronic bronchitis).

Data Sources

- [LDH Bureau of Health Informatics](#)
- [U.S. Census Bureau](#)

The Louisiana Department of Health (LDH) Environmental Public Health Tracking Program processes COPD data to provide to the US Centers for Disease Control and Prevention (CDC) Tracking Program, through a Cooperative Agreement.

Vintage: The latest dataset available from LDH Tracking as of January 2024:

- Hospitalization Data: data years **2000-2020**
- Emergency Department (ED) Data: data years **2010-2020**

Data Measure(s)

The LDH Tracking program collects data on the following measures for both hospitalizations and ED visits with a primary diagnosis of COPD:

- Age-Adjusted Rate
- Crude Rate
- Annual Number

Data measures were developed following the CDC Standards for Nationally Consistent Data and Measures (NCDMs) within the Environmental Public Health Tracking Network. The purpose of NCDMs is to ensure compatibility and comparability of data through data standardization among states and the US, resulting in measures which are useful for understanding the impact of the environment on health.

Explore Data

The LDH Health Data Explorer (<http://ldh.la.gov/tracking>) is an online query tool which allows health, environmental hazard, exposure and population data to be explored and viewed side-by-side in tables, charts, and maps. These data can be viewed, printed and downloaded for further analysis.

To *Explore Data* on the query tool:

Step 1: Select Criteria

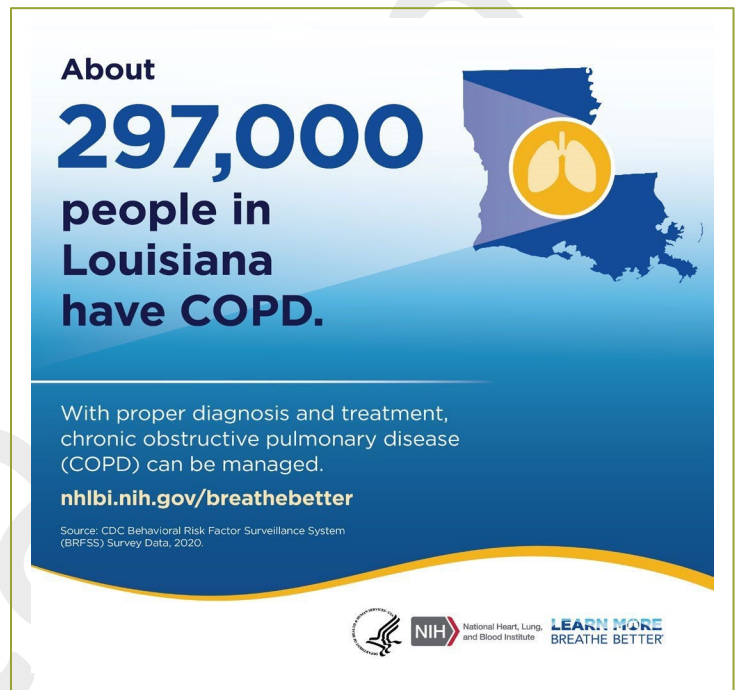
Category: **Health Outcomes**

Topic: **Hospitalizations** or Topic: **Emergency Department Visits** Focus:
Chronic Obstructive Pulmonary Disease (COPD)

COPD and your Health

About 297,000 people in Louisiana have COPD (National Heart, Lung and Blood Institute, 2021).

According to Behavioral Risk Factor Surveillance Surveys ([BRFSS, 2021](#)), approximately 8.7% of adults reported being told by a health professional that they have COPD, emphysema or chronic bronchitis. Various genetic factors play a role in how likely one is to develop COPD. Avoiding smoke and smoking and awareness of the indoor and outdoor air quality can improve health outcomes. This includes at home, in the workplace and outdoor environments where avoiding COPD symptom triggers are an important health precaution for COPD and other respiratory conditions.



COPD and the Environment

Smoke and smoking are important risk factors to avoid in outdoor and indoor environments, in addition to exposure to certain occupational or domestic hazards, such as chemical fumes, vapors, dusts in the workplace or from burning fossil fuels in ill-ventilated homes. Research is suggesting air pollution can induce the acute exacerbation of COPD (making symptom and management worse) and increase respiratory morbidity (illness) and mortality (death) ([Jiang et al, 2016](#)). According to America's Health Rankings, United Health Foundation and the CDC FastStats, Chronic lower respiratory diseases, mainly COPD, are the [sixth-leading cause of death in the United States \(2021\)](#).

Data Methods

The LDH Tracking Program collects data on the number of hospitalizations and emergency department (ED) visits due to COPD. Hospitalizations include the number of people admitted to the hospital, whereas ED visits include the number of people treated and released through the ED in addition to those admitted to the hospital through ED.

Data Privacy and Suppression. For these data, parishes with non-zero counts less than 6 and population less than 100,000 are flagged as suppressed. Suppressed values are not displayed in the Health Data Portal. Suppression is a method of protecting health data confidentiality when small numbers are reported. Suppression rules, which vary by data source, generally restrict the extent to which health data can be shared publically. Primary and secondary suppression techniques are used to prevent someone's personal health information from being discoverable by the general public. On the LDH Tracking portal, numbers and rates that are suppressed are displayed as asterisks (*) and are crosshatched in grey on graphs and maps.

Only 'non-smoothed' data values are included in this dataset. Smoothed rates or measures are available by the [CDC Tracking Program](#) and currently include stratifications for age group and gender. They can be used to identify patterns or trends across a state or group of counties.

Rate Stability. Calculated rates are flagged as unstable (or unreliable) if the relative standard error (RSE) calculation > 30 . Rates, proportions, and percentages are checked for their stability, so that trends over time and between geographic areas or persons can be evaluated with reasonable confidence. Unstable or unreliable rates, proportions, or percentages can arise from small number of cases or events or from small populations.

Data Limitations and Important Considerations

The following data limitations may exist for this dataset:

- a. Records are selected using primary discharge diagnosis and admission date. For the hospitalization data set, only persons admitted to hospital as inpatients (admitted for at least 24 hours) are included.
- b. Emergency Department data includes both inpatient and outpatient records. Patients who visit the emergency department may be treated and released, or they may be admitted to a hospital through the emergency department. Therefore, there is an overlap between emergency department and hospitalization indicators. Due to this overlap, emergency department counts and hospitalization counts cannot be combined to create a total count of events.
- c. Hospitalization and Emergency Department data should not be considered complete until the subsequent year of data has been published. Since the source data capture hospital discharges (rather than admissions), patients admitted toward the end of the year and discharged the following year will be omitted from the current year dataset. This may lead to the number of hospitalization admissions in the most recent year of published Tracking data to be underestimated.
- d. Data are generally updated on an annual basis. It is however important to note that there is usually a one to two year lag period before data are available from the data owner.
- e. Fluctuations in rates from year to year between parishes may occur, that do not reflect a true change in health outcomes over time or geography. These can complicate trend analysis. Distortion may occur from several identified quality controls related to data entry, transfer, or extraction; hospital closure or reorganization; incomplete hospital reporting; limitations of the geocode; major population shifts due to hurricanes; and other possible factors. Rate fluctuations have been found to impact both populous and rural parishes. Work is ongoing to identify and improve both the data source(s) and processing steps along the workflow.
- f. Counts and rates of 5 or fewer cases where population is less than 100,000 are suppressed. Suppressed rates are indicated with an asterisk (*). Suppression is a statistical practice that is

used to protect patient confidentiality and potentially identifying information by withholding or excluding small numbers within a specific demographic or geography. This is a standard procedure used to comply with the federal Health Insurance Portability and Accountability Act's Privacy Rule.

- g. Rates shown in italics have a relative standard error greater than or equal to 30% and may be unreliable. Rates calculated based on small numbers, generally less than 12, may be unstable and should be interpreted with caution.
- h. The 95% confidence intervals (CI) for some rates are shown as error bars on corresponding graphs. Statistical significance is determined by comparing 95% confidence intervals. If the confidence intervals of two rates do not overlap, there is a statistically significant difference between them.
- i. Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates, diagnostic techniques reported, NCDMs standards for processing, and updates in population estimates.
- j. Practice patterns and payment mechanisms may affect diagnostic coding and decisions by health care providers to hospitalize patients.
- k. Records for persons receiving care at home and in outpatient settings are not included in these data. Not all hospitals report data from emergency departments.
- l. Veterans Affairs, Indian Health Services and institutionalized (e.g. prison) population records are also not included in these data.
- m. Records for persons living in Louisiana may not be included if the hospitalization occurred out of state.
- n. Patients may be exposed to environmental triggers in multiple locations, but hospital discharge geographic information is limited to patient residence and hospital location.
- o. Differences in rates by area may be due to different socio-demographic characteristics and associated behaviors. When rates across geographic areas are compared, many non-environmental factors, such as access to medical care, personal behaviors, health status and diet can affect the likelihood of a person being hospitalized for asthma. Differences in rates by time or area may reflect differences or changes in diagnostic techniques and criteria in the coding of asthma.
- p. Persons hospitalized for asthma multiple times throughout the year may be counted for each hospitalization, thereby raising the rates. Although duplicate records are excluded, the measures are based upon events, not individuals. When multiple admissions are not identified, the true prevalence will be overestimated.
- q. The measure of all asthma hospitalizations may include some transfers between hospitals for the same person for the same asthma event. Thus, variations in the percentage of transfers or readmissions for the same asthma event may vary by geographic area and impact rates.
- r. Because census data are only available every ten years, the postcensal population estimates are used when calculating rates for the intervening years. These estimates may not accurately reflect demographic changes for years in which large population shifts occur.
- s. Differences in counts and rates in years prior to 2015 (ICD-9-CM) compared with 2015 (ICD-9CM and ICD-10-CM) and subsequent years (ICD-10-CM) could be a result of a coding change and not an actual difference in the number of events (CDC, 2023).

Data Re-release

This is a public dataset which can be freely shared. Personally identifiable health information have been removed. Please refer to the Data Methods section of these metadata from more information.

Data Citations

Please cite the US CDC, LDH Environmental Public Health Tracking Program Cooperative Agreement NUE1EH001490, and any data source(s) listed on Page 1 when re-sharing or applying these data in analyses or publications.

Disclaimer

Data are intended to spur further research and should be used only as a starting point to understanding how the environment and other contributing factors may be connected to disease. Datasets presented on the LDH Health Data Explorer site are intended to answer some basic questions, but should ultimately lead to further inquiry and more detailed study.

Data limitations should be noted if conducting exploratory ecological studies with these data. Limitations may include data gaps, reporting discrepancies (for example, a disruption of reporting or instrument recording) and insufficient data on all potentially confounding factors. There are numerous additional factors which may contribute to disease onset. These include genetics, access to health care, existing health conditions, medicines, other chemical substances we come into contact with or ingest, nutrition, route and duration of exposure, level of activity, level of stress, and others.

Responsible use of this data requires exercising caution when drawing conclusions based solely on views of the limited available data. Any perceived relationship, trend, or pattern apparent in the data should not be interpreted to imply causation; may in fact be unrelated; and should be regarded as preliminary, and potentially erroneous, until more in-depth study and if applicable, statistical evaluation, can be applied.

The LDH Bureau of Health Informatics and Environmental Public Health Tracking Program cannot guarantee the completeness of the information contained in these datasets and expressly disclaim liability for errors and omissions in their content.

Additional Information

Please visit the following links for more information:

- CDC|[Chronic Obstructive Pulmonary Disease \(COPD\)](#)
- America's Health Rankings|[COPD in Louisiana](#)
- Mayo Clinic|[COPD](#)
- NIH|[Learn More Breathe Better](#)

Questions?

- Email: healthdata@la.gov
- Website: <http://ldh.la.gov/tracking>
- Toll free Phone: 1-888-293-7020