Chronic Obstructive Pulmonary Disease (COPD)

About

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).

According to the CDC, cigarette smoking is the main risk factor for developing COPD. In fact, not smoking or avoiding exposure to second-hand smoke can prevent the development of COPD, and the most important part of COPD treatment for smokers is smoking cessation. Other factors, such as 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 can also heighten the risk for COPD. Various genetic factors also play a role in how likely one is to develop COPD.

According to the 2011 Behavioral Risk Factor Surveillance Survey (BRFSS), approximately 6.5% of Louisiana residents were told by a healthcare professional that they have COPD. The Louisiana Department of Health (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 as well as those admitted to the hospital through ED.

About the Measures

These measures were developed following the Centers for Disease Control and Prevention (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 and measures useful for understanding the impact of our environment on our health. The LDH Tracking program collects data on the following measures for both hospitalizations and ED visits with a primary diagnosis of COPD:

- Average Daily Number
- Age-Adjusted Rate
- Crude Rate
- Annual Number

For a more detailed description of these measures, please refer to the LDH Tracking Glossary of Terms.

About the Data

The following data limitations may exist for this dataset:

- 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.

- 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.
- 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 understated.
- Data is 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.
- 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.
- 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.
- 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.
- The 95% confidence intervals (CI) for 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.
- 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.
- Practice patterns and payment mechanisms may affect diagnostic coding and decisions by health care providers to hospitalize patients.
- 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.

- Veterans Affairs, Indian Health Services and institutionalized (e.g. prison) population records are also not included in these data.
- Records for persons living in Louisiana may not be included if the hospitalization occurred out of state.
- Patients may be exposed to environmental triggers in multiple locations, but hospital discharge geographic information is limited to patient residence and hospital location.
- 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.
- 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.
- 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.
- 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.

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 this 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 following hurricanes) 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 many others.
Responsible use of this data therefore 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.

Data Sources

- LDH Bureau of Health Informatics
- United States Census Bureau

Additional Info

- CDC LA COPD Factsheet
- Mayo Clinic COPD
- Utah Tracking COPD

Questions

- For more information, please visit the Health Data Portal or email us at healthdata@la.gov