Asthma

About

Asthma is a chronic lung disease that causes the airways that carry air into and out of the lungs to become irritated and swollen, which causes less air to flow into the lungs. Symptoms of asthma include reoccurring episodes of wheezing, shortness of breath, chest tightness, and coughing at night or early in the morning. When symptoms increase in intensity, it is known as an asthma attack, flare up, or exacerbation. Managing asthma by taking medicine and avoiding triggers that could cause an attack can assist to control asthma. Since asthma is a chronic disease, it can affect everyday activities, such as attendance rates at school or work.

Although the exact cause of asthma is unknown, researchers hypothesize an interaction between genetic and environmental factors cause asthma. There are a number of environmental factors, both indoor and outdoor, that are known to trigger asthma symptoms. The most common outdoor triggers for asthma are air pollution, pollen, and pesticides. Indoor triggers for asthma include mold, dust, secondhand smoke, pet dander, cockroaches and other pests, and strong smells or odors, including perfumes.

One in ten Louisianans suffers from asthma during his or her lifetime making it one of the biggest health burdens in the state. The Louisiana Department of Health (LDH) Tracking Program collects data on the number of hospitalizations and emergency department visits due to asthma. Hospitalizations include the number of people admitted to the hospital, whereas emergency department visits include the number of people admitted to the emergency room.

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 emergency department visits with a primary diagnosis of asthma:

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

For a detailed definition of each measure, 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 100,00 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](#)
- [U.S. Census Bureau](#)

Additional Information

- [American Lung Association Asthma Info](#)
- [CDC Asthma Info](#)
- [U.S. EPA Asthma Info](#)

Questions
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