Asthma

This metadata page provides a brief summary of this dataset. More detailed data and metadata may be available from the LDH Tracking Program. Please refer to the contact information on the last page under 'Questions?'

Definition

Asthma is a chronic lung disease that causes the airways that carry air into and out of the lungs to become irritated and swollen. This 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. There are many possible asthma triggers, called allergens, including pollen, dust, physical exercise, food additives, and fragrances, among others. The cold winter months often worsen asthma.

Data Sources

- LDH Bureau of Health Informatics
- U.S. Census Bureau

The Louisiana Department of Health (LDH) Environmental Public Health Tracking Program processes asthma 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**
- Hospitalization and ED monthly 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 asthma:

- Age-adjusted Rate Per 10,000 Population
- Crude Rate Per 10,000 Population
- Total 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. 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: **Asthma**

Asthma and your Health

According to America's Health Rankings, United Health Foundation, an estimated 9.7% percent of adults in Louisiana reported being told by a health professional that they currently have asthma. This is compared to 9.8% of US adults overall (2021). Preventing asthma attacks and visits to the emergency room or hospital is more achievable with a good asthma management plan, available equipment such as inhalers, and medicine refills to control flare ups. This isn't always possible for some asthma sufferers. Taking medicine and avoiding triggers assists to control asthma. Asthma is one of the risk factors for severe illness with COVID-19, making its proper management crucial.

Newborns age 0-4 years, and more black persons in the US went to the emergency room and urgent care because of asthma compared to other age groups or other race/ethnicity (CDC National Center for Health Statistics, 2016-2018).

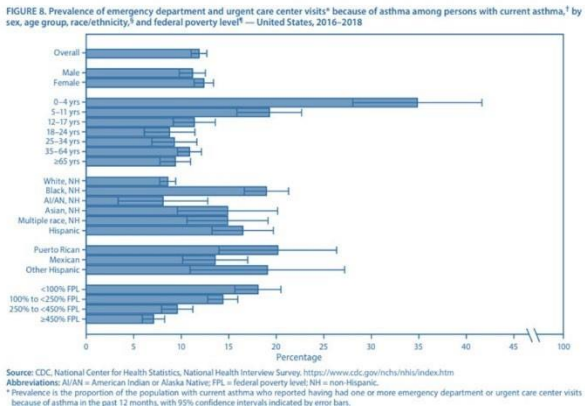

FIGURE 8. Prevalence of emergency department and urgent care center visits* because of asthma among persons with current asthma,† by sex, age group, race/ethnicity,§ and federal poverty level¶ — United States, 2016–2018

Source: CDC, National Center for Health Statistics, National Health Interview Survey. https://www.cdc.gov/nchs/nhis/index.htm
Abbreviations: AI/AN = American Indian or Alaska Native; FPL = federal poverty level; NH = non-Hispanic.
* Prevalence is the proportion of the population with current asthma who reported having had one or more emergency department or urgent care center visits because of asthma in the past 12 months, with 95% confidence intervals indicated by error bars.

Asthma and the Environment

Although the exact cause of asthma is unknown, researchers hypothesize that an interaction between both genetic and environmental factors cause asthma. There are a number of environmental factors, some which can be controlled, both indoor and outdoor, that are known to trigger asthma symptoms. Common outdoor triggers for asthma are pollen, smoke, air pollution, particulates in air, and pesticides. Indoor triggers for asthma include mold, dust, secondhand smoke, pet dander, cockroaches and other pests, and strong smells or odors, for example, perfumes or chemicals. Through surveillance, the LDH Tracking Program seeks to understand more about asthma in Louisiana and to identify and partner to find ways to reduce environmental triggers.

Data Methods

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. 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 Health Data Explorer, numbers and rates that are suppressed are displayed as asterisks (*) and are cross-hatched 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 populations can be evaluated with reasonable confidence. Unstable or unreliable rates, proportions, or percentages can arise from a 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 understated.
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 that do not reflect a true change in health outcomes over time or geography may occur. 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 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 has 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 when 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 are 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 Asthma Info
- American Lung Association Asthma Info
- U.S. EPA Asthma Info
- BREATHE, SEET Indoor Air Quality Educations Service and LDH Tracking

Questions?

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