

## **Birth Outcomes**

This metadata page provides a brief summary of this dataset. More detailed data and metadata are available from the Louisiana Department of Health (LDH) Tracking Program and the Bureau of Family Health (BFH) within the Office of Public Health. For more information, please refer to the program contact information listed on the last page under ‘Questions?’

## **Definitions**

Birth outcomes include measures such as prematurity, low birthweight, maternal mortality, infant mortality, fertility, and sex ratio. Generally, **prematurity** data provide information on infants that are born too early, while **low birth weight** data provide information on babies that are born too small, or less than a healthy weight. Both conditions can affect child health and development. Unfortunately, Louisiana continues to rank below national levels and optimal goals for many of these indicators of healthy childbirth. In Louisiana, African American mothers and infants, both historically and today, are dying more often than non-Hispanic white mothers and infants, respectively. **Fertility** measures a ratio of the number of live births in an area to the population of women of reproductive age in that area. **Sex ratio** compares the number of females and males born, noting if these counts are about equal. Both can be indicators of potential environmental influences on human reproduction, although indications are typically very slight. Improving reproductive and birth outcomes is a high priority for the health agency serving Louisiana families and children. Specific age ranges, and in some cases race/ethnicity, gender, and more detailed descriptions and definitions for the data included in each measure are detailed under ‘Data Measures.’

## **Data Sources**

- [LDH Vital Records](#)
- [LDH Bureau of Family Health](#)
- [U.S. Census Bureau](#)

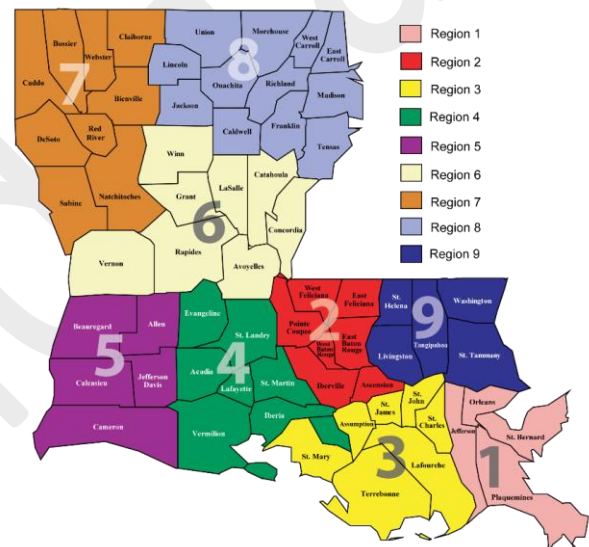
The LDH Environmental Public Health Tracking Program requests and receives Birth Outcomes data from our data partners under a Data Sharing Agreement, to display and share on the [Louisiana Department of Health Data Explorer](#). We provide these data as part of a US Centers for Disease Control and Prevention (CDC) Tracking Program Cooperative Agreement.

**Vintage:** This dataset features parish (county) level and regional (LDH Administrative Region) data provided by the LDH Bureau of Family Health. Updated data may be available [directly from the Program](#).

The latest data available from LDH Tracking as of September 2023 include:

- **Low Birth Weight:** Percentage of low birth weight (<2,500 grams) live singleton term births, by parish: **2000-2021**
  - **Very Low Birth Weight:** Percentage of very low birth weight (<1,500 grams) live singleton births, parish-level 5-yr aggregates spanning: **2000-2004** through **2017-2021**
- **Preterm Birth:** Percentage of preterm live singleton births (before 37 completed weeks of gestation), by parish: **2000-2021**
  - **Very Preterm Birth:** Percentage of very preterm live singleton births (before 32 completed weeks of gestation), parish-level 5-yr aggregates spanning: **2000-2004** through **2017-2021**
- **Male to Female Sex Ratio:** term live singletons only, by parish and state: **2000-2021**
- **Total Fertility Rate** per 1,000 women of reproductive age, by parish and state, for 9 age group ranges, (10-14 yrs through 45+ years, and all ages): **2000-2021**
- **Maternal Mortality:** Deaths per 100,000 live births, by ethnicity/race (all, Non-Hispanic Black, and Non-Hispanic White), by state: **2017-2020**  
*Indicator:*
  - *Pregnancy-Associated but Not Related Deaths:* A pregnancy-associated, but not related, death is one that happens during pregnancy or within one year of the end of pregnancy from a cause that is not related to the pregnancy (e.g., postpartum death in a car accident).
  - *Pregnancy-Associated Death, Unable to Determine Relatedness*
  - *Pregnancy-Related Deaths*
- **Infant Mortality:** Infant (less than one year of age) mortality rate per 1,000 live births, by Parish, state region at yearly, and 5-yr aggregates: **2011-2021**
  - *Perinatal* (Infant deaths occurring before 7 days after birth and fetal deaths 28 completed weeks of gestation or older) Mortality Rate per 1,000 fetal deaths and live births

Figure 1. Louisiana Department of Health Administrative Regions



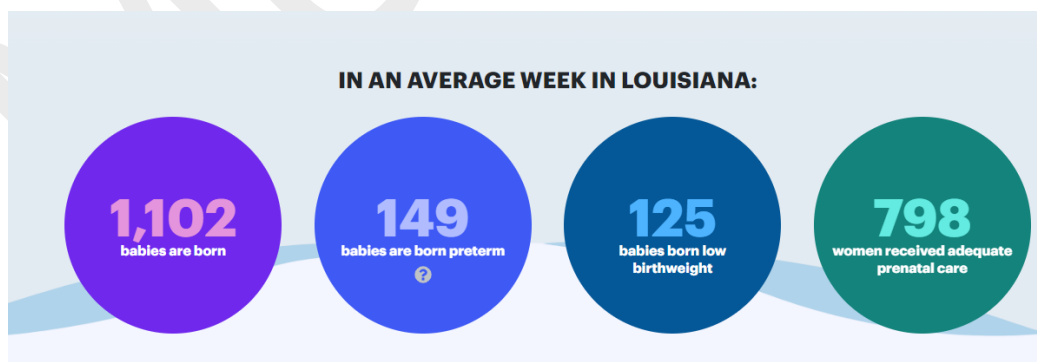
- o *Neonatal* (Infant deaths occurring before 28 days of age) Mortality Rate per 1,000 live births
- o *Postneonatal* (Infant deaths occurring between 28 and 364 days of age) Mortality Rate per 1,000 live births

## Data Measures

The CDC and LDH Tracking Programs collect and compile data on health outcome, environmental hazard, exposure, and population health measures that can help analyze and better understand poor health outcomes. Scientists and health officials collaborating with academics, researchers, and community citizen scientists continue to work towards new health interventions that will change and improve national and state health outcomes and health rankings.

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.

- Low Birth Weight is defined as babies born weighing less than 2,500 grams or 5.5 pounds. Birth weight is the weight of the newborn measured immediately after birth. Birth weight is a critical health measure, and some studies have shown that low birth weight is an important predictor of future morbidity and mortality.
- Premature Births. A baby is considered premature if he or she is born before 37 completed week of gestation. A baby is considered very premature if he or she is born before 32 completed week of gestation.



Source: [March of Dimes Peristats](#) (accessed September 2023)

- Maternal Mortality is the death of a woman during pregnancy or within one year of the end of pregnancy. In Louisiana, two black mothers die for every white mother (Louisiana Pregnancy-Associated Mortality Review: 2017-2019 Report).
- Infant Mortality. Louisiana's Infant Mortality Rate is 7.9 infant deaths per 1,000 live births (2020 LDH BFH State Profile). Louisiana along with several other southern U.S.

states still has some of the highest infant mortality rate in the US (America's Health Rankings, United Health Foundation).

- **Fertility** refers to the ability to conceive children. According the CDC, about 6% of women in the United States of reproductive age, aged 15-44 years, have difficulty getting pregnant or carrying a pregnancy to term. Total fertility rate (TFR) represents the ratio of the number of live births in an area, to the population of women of reproductive age in that area. Total fertility differs from other common fertility measures such as the general fertility rate (GFR) in that it adjusts for age-specific differences in fertility. Infertility may be the result of many different factors including age, existing medical conditions, and possible exposure to environmental contaminants.
- **Male/Female Sex Ratio.** The sex ratio is a comparison of the number of babies born male to number of babies born female. The expected sex ratio at birth is 105 boys born for every 100 girls, which results in male/female sex ratio of 1.05. If a parish has a sex ratio greater than one, more male babies were born than female babies for that time period. If a parish has a sex ratio less than one, more female babies were born than male babies for that time period. Why are more males born than females among humans? See: "[The human prenatal sex ratio: A major surprise](#)" (*Proc Natl Acad Sci*, 2015)

## Explore Data

The LDH Health Data Explorer (<http://ldh.la.gov/tracking>) is an online query tool that allows health outcome, environmental hazard, exposure, and population health 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:

CRITERIA: Select Dataset:

Category: **Health Outcomes**

Topic: **Birth Outcomes**

## Birth Outcomes and your Health

According to America's Health Rankings, the percentage of low birth weight infants in Louisiana was **10.9%** in 2020 (Data from CDC WONDER, Natality Public Use Files, 2020). In 2021, 1 in 7 babies (13.5% of live births) were born preterm in Louisiana. Babies born too small or too early face serious health challenges after birth and as they develop.

Birth outcomes and birth defects closely relate. Many underlying health conditions can affect maternal and child health. High blood pressure, infectious diseases, and diabetes are just a few examples. Medications and nutrition are important considerations. Health disparities are playing a large role in most of the poor birth outcomes in Louisiana, indicating more work is needed to measure and address access to quality health care. Current issues, developments,

and statistics are available from the Bureau of Family Health and partner's websites. Please see 'Additional Information' below for links.

## **Birth Outcomes and the Environment**

Birth and Reproductive Health Outcomes are included in environmental health surveillance efforts by the LDH Tracking Program, and are viewable on the LDH Health Data Portal along with environmental quality, exposure, and population health data because the environment can affect mother and child health in various ways. Associations are being studied between low birth weight and air pollution, and heavy metals such as lead and arsenic. Prematurity may also be associated not only with other existing medical conditions but with air quality or other exposures as well. Studies cannot rule out environmental factors that may influence unexplained rates of maternal and infants deaths. These require study, as to why Louisiana's rates are so high compared to other states, nationally.

Social factors and environmental justice concerns certainly point to more unhealthy exposures for women and children who lack adequate resources. Examples include lack of transportation, lack of access to affordable groceries including fresh vegetables and fruits, limited or no access to safe parks or walkable places, preventing needed green space and fresh air, and lack of cool or air conditioned spaces in excessive heat. Environmental exposures can also effect fertility rates and the male to female sex ratio, as demonstrated in several studies. Indications by small changes in expected ratios could raise questions of possible environmental exposures.

## **Data Methods**

**Data Privacy and Suppression.** For these data, parishes with non-zero counts less than 5 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) in some data if the relative standard error (RSE) calculation  $> 30\%$ . Unreliable rates are not available for all data. Rates, proportions, and percentages are checked for their stability, so that comparisons 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. Counts and rates based on fewer than 5 cases 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 Health Insurance Portability and Accountability Act's (HIPAA) Privacy Rule as well as for the protection of Vital Records Data in compliance with their health data privacy protections.
- b. The mortality rates with a relative standard error (RSE) greater than 30% indicate that data do not meet standards of reliability or precision. Generally, the mortality rates based on fewer than 12 cases have a RSE over 30%.
- c. Low birth weight and prematurity birth measures are calculated for singleton births only. Other measures, such as those calculated by the Louisiana Department of Health Bureau of Health Statistics may compute these measures for all births. Be careful to note these differences in calculation if comparing these values or datasets.
- d. These measures use the address reported by the mother on the date of delivery and may not reflect where the mother lived or worked during her pregnancy. Before 2011 for birth and 2012 for death data, if parish of residence was missing, the parish of occurrence was used instead.
- e. Differences in infant mortality rates may be associated with a number of factors including access to and quality of care, maternal characteristics such as education level, and environmental exposures. No conclusions can be drawn about observed differences in rates without conducting studies to evaluate alternative explanations.
- f. 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, Nationally Consistent Data and Measures standards for processing, and updates in population estimates.
- g. Limitations should be noted when comparing these data to those from other states.

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

## Additional Information

- [LDH Bureau of Family Health](#)
- [CDC National Vital Statistics System \(NVSS\) Birth Data](#)
- [CDC National Vital Statistics System \(NVSS\) Mortality Data](#)
- [CDC Reproductive Health Info](#)
- [National Institute of Child Health and Human Development](#)
- [CDC Percentage of Births Born Preterm by State](#)
- [America's Health Rankings Low Birthweight in Louisiana](#)

## Questions?

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