Louisiana Morbidity Report

Office of Public Health - Infectious Disease Epidemiology Section
P.O. Box 60630, New Orleans, LA 70160 - Phone: (504) 568-8313
www.ldh.louisiana.gov/LMR

Infectious Disease Epidemiology Main Webpage
infectiousdisease.ldh.la.gov

JOHN BEL EDWARDS
GOVERNOR

REBEKAH E. GEE MD MPH
SECRETARY

July - August, 2019 Volume 30, Number 4

Toxi-infection? Neurologic Disease? or Heatstroke?

Centers for Disease Control infographic

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A concerned emergency room (ER) physician contacted the Infectious Disease Epidemiology Section after two persons with common exposure presented to the emergency department with complaints of headache, vomiting, altered mental status, and burning skin. In addition, one of them could not walk and had some facial palsy. Both had spent the morning outdoors in hot, dry weather.

The onset of symptoms occurred within one half hour after eating lunch, which was comprised of a prepackaged sandwich and a snow cone. One case alleged there was mold on the sandwich and the other dropped the snow cone without having tasted it. Both were stabilized in the ER, discharged to home, and advised to return if there was no improvement. Within two hours their symptoms persisted, particularly, the altered mental status. As a result, both were admitted into a local hospital.

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GuLF Oil Spill Study Update, 2018

The Gulf Long-term Follow-up Study (GuLF STUDY) is a health study for individuals who helped with the Deepwater Horizon (DWH) oil spill response and clean-up (OSRC), including those who received training, signed up to work, or were sent to the Gulf to help in some way after the April 20, 2010 disaster.

Goal

The GuLF STUDY is designed to find answers to questions that matter to OSRC workers, and affected communities. The study was justified because workers who received training, and tried to follow all guidelines given, may have had oil spill exposures. Safety procedures often reduce, but do not fully eliminate, all exposures. For example, heat and humidity made it hard to follow some guidelines.

The training and safety procedures were based on what was known at the time of the spill since there have been few studies about the potential risks of oil spill clean-up. Therefore, it is very important to study the health of people who performed the clean-up. This will help identify any concerns for persons exposed to the oil and help officials know how to respond if there is another spill.

Organization

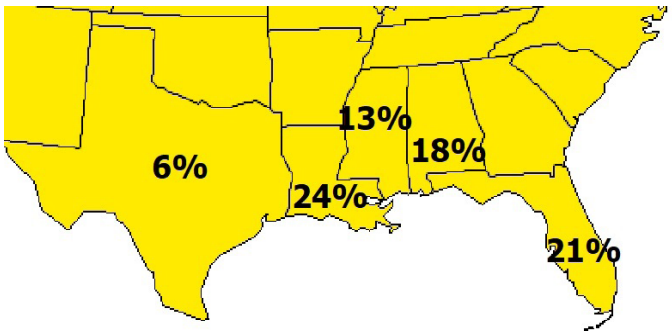
The National Institute of Environmental Health Sciences (NIEHS) is leading this research with the support of many local community groups. The study is funded by the Intramural Program of the NIEHS and the National Institutes of Health (NIH) Common Fund, NIEHS is one of the National Institutes of Health.which is part of the Department of Health and Human Services.

Researchers at the NIEHS run the study. A GuLF STUDY Scientific Advisory Board has been formed as a subcommittee of the NIEHS Board of Scientific Counselors (BSC) to advise the BSC, the NIEHS Scientific and Institute Directors, and the study team on issues related to study implementation and the evaluation and dissemination of study findings. Dr. Dale Sandler, Chief of the NIEHS Epidemiology Branch, is the study's principal investigator. More information is available at http://www.niehs.nih.gov.

British Petroleum (BP) is not involved in this study. They were not involved in the design of the study and play no role in carrying it out or analyzing the study data. Shortly after the spill, BP donated money to the NIH to fund health research related to the oil spill. Some of that donation money was used to start the GuLF STUDY. However, much of the funding for the study comes from the NIH directly.

Most of the participants (82%) were from the Gulf states including 24% among Louisiana residents. People not directly involved in response or clean-up have been included in the study

Figure: GuLF STUDY participants from the Gulf States Region



(continued on page 4)

Web Announcements & Updates

Infectious Disease Epidemiology (IDEpi) Webpages
infectiousdisease.ldh@la.gov

Annual Updates: Amebiasis, Anthrax, Blastomycosis; Cryptococcus; *E.coli* O157:H7; Cryptosporidiosis; Giardiasis; *Haemophilis Influenza*; Hepatitis B; Human T-cell lymphocyte (HTLV); *Legionella*; Leptospirosis; Listeria; Measles; Meningococcal meningitis; Murine Typhus; Rabies; Rocky Mountain Spotted Fever; Salmonella; Viral meningitis

Arboviral Annual Updates: Eastern Equine Encephalitis (EEE); La Crosse California Group Encephalitis (LAC)

HAI/AR: Antibiogram Report, 2016

Disease Summary Updates: Influenza, Streptococcal Infections Group A; Streptococcal Infections Group B

Veterinary-Rabies: One Health and Rabies Information *new heading*; Infection Control and Veterinary Standard Precautions (NASPHV)

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Assistant Secretary OPH — ***Alexander Billioux, MD, DPhil***

State Epidemiologist — ***Raoult Ratard, MD, MPH***

Editors — ***Theresa Sokol, MPH***
Julie Hand, MSPH
Marceia Walker, M.Ed.

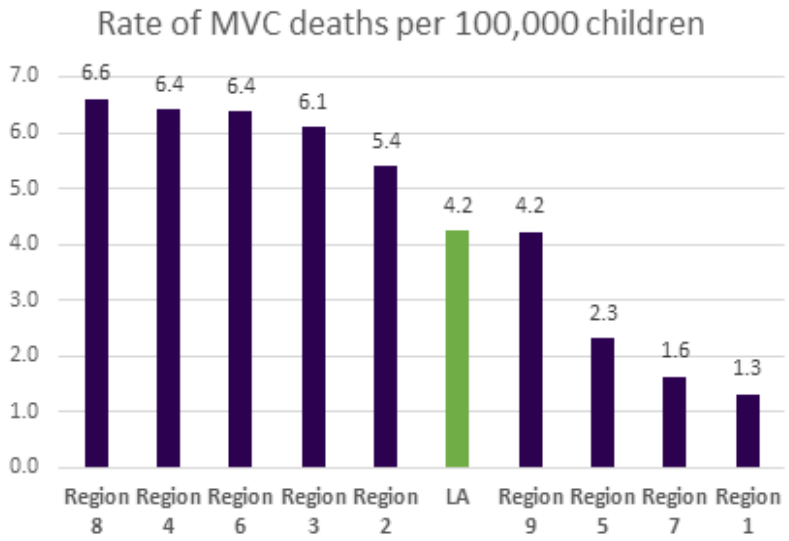
Motor Vehicle Crashes in Louisiana: Improving Child Passenger Safety Efforts

Jia Benno, MPH; Rosaria Trichilo, MPH

Motor Vehicle Crashes (MVC) in Louisiana are the leading cause of injury-related deaths in children ages 1-14 each year. From 2015-2017 approximately 110 children (or close to 5 classrooms of children) died in MVC crashes. Louisiana had the fourth highest rate of MVC related deaths in the United States during this time period. MVC rates were obtained from *wonder.cdc.gov/ucd-icd10.html.*

Motor vehicle crash deaths occur in all regions across Louisiana. The rate of MVC deaths in ages 1-14 for the state of Louisiana for 2015-2017 is 4.2 deaths per 100,000 children but the rates range from 6.6 deaths per 100,000 children in Region 8 to 1.3 in Region 1 as obtained from the Louisiana Department of Health-Office of Public Health, Vital Records and Statistics. See page 7 for a map of the regions statewide.

Figure 1: MVC Deaths in Children in Louisiana by OPH Region, 2015-2017



Data from the Louisiana Child Death Review indicates that MVC deaths occur both when children are in the car as drivers or passengers as well as when they are pedestrians. Children ages 5-14 are more likely to die as car passengers in MVCs, while children ages 1-4 are more likely to die outside the vehicle as pedestrians or at play.

There are several factors present in the majority of motor vehicle deaths in Louisiana. These factors are whether airbags, lap belts, shoulder belts, booster seats, and child seats are present or used correctly. Properly restraining children in the car and having working airbags is essential for decreasing the number of child related fatalities in motor vehicle crashes.

Figure 2: Vehicle safety features used incorrectly or not present in child MVC Deaths in Louisiana

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(GuLF STUDY Oil Spill ... continued from page 2)

because they could have been affected by the oil spill, especially if they lived in the region at the time. Furthermore, by comparing workers with exposures or experiences of interest, to others who did not have those exposures, the study can detect whether health problems are occurring at a higher rate than expected among some groups of workers.

Progress

Between March 2011 and March 2013, about 33,000 participants joined the study by completing a telephone interview, therefore, making it the largest study ever conducted on the health effects of an oil spill. Participants were adults ages 21 and over, who helped with the oil spill clean-up, took training, signed up to work, or were sent to the Gulf to help in some way. Additionally more than 11,000 of the participants from the five Gulf-coast states completed home examinations from May 2011 to May 2013 which included questionnaires and the collection of biological and environmental samples.

Moreover, telephone interviews that involved detailed health questionnaires were carried out from May 2013 to August 2016. Over 19,000 study participants completed this phase. In addition, over 3,500 individuals who lived within 60 miles of a study clinic in Mobile, AL or New Orleans, LA completed a comprehensive clinical research study exam. The study clinic exams included tests of lung and neurological function, physiological measurements, additional collection of biological samples, and questionnaires centered on physical and mental health. A second round of interviews, started in March 2017, is ongoing.

The study is continuning and is requesting participants to complete a follow-up online survey, or telephone interview, about their health and lifestyle. Many have reported serious health conditions since the spill, such as cancers, strokes, and heart attacks. Medical records are needed to learn more about these health problems and provide more accurate and detailed information than that collected by questionnaires or exams.

Louisiana participants represent 24.1% of the included study population, 24.5% of the home visits, 12.6% of the phone interviews and 26.3% of the clinical examinations.

Recent publications and conclusions: Of note, none of these peer review articles are related to cancer.

Publication: Strelitz J, Engel LS, Kwok RK, et al. Env IT 2018. Deepwater Horizon oil spill exposures and nonfatal myocardial infarction in the GuLF STUDY.

Conclusion: Residential proximity to the spill and duration of clean-up work were associated with a suggested 29-43% higher hazard of **heart disease events**. Associations were robust to censoring.

Publication: Gam KB, Engel LS, Kwok RK et al. Environ Int. 2018 Dec;121(Pt 1):695-702. doi: 10.1016/j.envint.2018.09.058. Epub 2018 Oct 11. Association between Deepwater Horizon oil spill response and cleanup work experiences and lung function.

Conclusion: Workers involved in handling oily plants/wildlife or dead animal recovery had **lower lung function** than unexposed workers after accounting for other OSRC inhalation

Publication: Gam KB, Kwok RK, Engel LS et al. J Occup Environ Med. 2018 Jun;60(6):e312-e318. doi: 10.1097/JOM.0000000000001292. Exposure to Oil Spill Chemicals and **Lung Function** in DH Disaster Response Workers.

Conclusion: Did not observe an association between total hydrocarbon (THC) exposure and lung function among clean-up workers 1 to 3 years following the Deepwater Horizon disaster.

Publication: Gam KB, Kwok RK, Engel LS, et al. Lung function in oil spill response and clean-up workers 1-3 years after the Deepwater Horizon disaster. Epidemiology. 2018 May;29(3):315-322. doi: 10.1097/EDE.0000000000000808.

Conclusion: While no differences in **lung function** were found between workers and non-workers, lung function was reduced among decontamination workers and workers with high exposure to burning oil/gas compared with unexposed workers.

Publication: Stewart PA, Stenzel MR, Ramachandran G. J Expo Sci Environ Epidemio 2018 May;28(3):223-230. doi: 10.1038/jes.2017.16. Epub 2017 Oct 18. Development of a total hydrocarbon ordinal **job-exposure matrix** for workers responding to the Deepwater Horizon disaster: The GuLF STUDY.

Conclusion: Considerable differences in THC exposure levels were found among exposure groups (EGs). Based on the maximum THC level participants experienced across any job held, 14% of the subjects were identified in the highest exposure category. Approximately 10% of the cohort was exposed to dispersants or particulates. Considerable exposure differences were found across the various EGs, facilitating investigation of exposure-response relationships. The JEM is flexible to allow for different assumptions about several possibly relevant exposure metrics.

Publication: Werder EJ, Gam KB, Engel LS, Kwok RK,et al. J Expo Sci Environ Epidemiol. 2018 June;28(4):358-370, Predictors of blood volatile organic compound levels in Gulf coast residents.

Conclusion: Season, time spent away from home, and self-reported residential proximity to Superfund sites (within a half mile) were statistically associated with benzene only, however mean concentration was nearly an order of magnitude below that of cigarette smokers. Among these Gulf residents, smoking was the primary contributor to blood benzene, toluene, ethylbenzene, and xylenes **(BTEX)** levels, but other factors were also relevant.

Publication: Werder EJ, Engel LS, Richardson DB et al. Environ Int. 2018 Dec;121(Pt 1):480-490. doi: 10.1016/j.envint.2018.09.025. Epub 2018 Oct 1.Environmental styrene exposure and neurologic symptoms in U.S. Gulf coast residents.

Conclusion: Increasing estimated ambient styrene concentration was consistently associated with increased prevalence of **neurologic symptoms**. Associations between blood styrene

(continued on page 6)

Motor Vehicle... continued from page 3

In order to decrease child deaths in motor vehicle crashes, Louisiana recently passed legislation to follow best practices regarding child and booster seats. This new legislation goes into effect on August 1, 2019 and considers the height and weight limits of car seats in addition to whether a child can fit in a seat correctly.

According to national safety experts, Louisiana's new law is the best in the country, as it is based on national best practice and mirrors the American Academy of Pediatrics' newly released child seat recommendations. The law keeps children from prematurely graduating to the next level of restraint, which would make them less protected. The new law requires children to remain in the most protected category of child restraint.

Figure 3: New child passenger safety law in Louisiana

Louisiana Child Passenger Seat Law/Best Practice

Age/Size (State Law)	**Restraint Use (State Law)**
Birth to at least 1 year or less than 20 pounds	Ride rear-facing in an infant or convertible seat
1 year old, but younger than 4 years old or 20 to 40 pounds	Ride forward-facing in convertible or combination seat (used with the internal harness)
4 year old, but younger than 6 years old and weighs 40 to 60 pounds	Ride in a belt-positioning booster seat (backless or high-backed)
6 years old and weighs more than 60 Pounds	Ride using the vehicle lap-shoulder belt or belt-positioning booster seat
Age/Size (Recommended Practice)	**Restraint Use (Recommended Practice)**
Birth to 2 years old	Ride rear-facing in an infant (that meets weight requirements for seat) or convertible seat
3 year old and weighs 20 to 40 pounds	Ride forward-facing in convertible or combination seat (used with the internal harness)
4 to 6 year old, weighs less than 60 pounds, and not 4'9"	Ride in a belt-positioning booster seat (backless of high-backed)
6 year old, weighs more than 60 pounds, and 4'9"	Ride using the vehicle lap-shoulder belt

Convertible seat: May be used rear-facing (5-30 pounds) or forward facing to 40 pounds
Combination seat: May be used forward facing with internal harness to 40 pounds, then the harness is removed and it may be used as a belt-positioning booster with vehicle lap-shoulder belt to 80/100 pounds
A **child who because of age or weight can be placed in more than one category shall be placed in the more protective category.**
A child under the age of thirteen should ride in the rear seat position in the vehicle, if rear seats are available.
Always read car seat instructions (for specific wt/ht limits) and the vehicles owner's manual for installation guidance.
For more information, visit www.safekids.org or www.dps.state.la.us (click on Highway Safety) or call (225) 925-6991 (LHSC) or (504) 568-2508 (SAFE KIDS)

Children are required to remain in car seats, booster seats, or the back seat of vehicles for as long as is appropriate for a child's age, and according to the car seat manufacturer's instructions and height and weight limitations. The new law also requires that all children under the age of 13 ride in the back seat of vehicles with lap and shoulder belts. It is our hope that this legislation will lead to a decrease in MVC deaths in children over the next several years.

Louisiana State Police has produced a video outlining how the new law works. The video can be viewed on the Facebook pages of State Police *https://www.facebook.com/LouisianaStatePolice/.* The Louisiana Highway Safety Commission also maintains a list of fitting stations where parents, grandparents and caregivers can get a free child seat installation from a qualified technician. The full list is available here: *http://www.lahighwaysafety.org/Documents/CHILDPASSEnger/All%20Fitting%20Stations%2011%2018.pdf*

For more information on efforts across the state to improve child passenger safety, visit the Louisiana Highway Safety Commission website at *http://www.lahighwaysafety.org/Pages/Homepage.aspx* or Buckle Up Louisiana at *https://www.facebook.com/BuckleUpLouisiana/*. For more information on the Louisiana Child Death Review and available data, please visit *http://www.ldh.la.gov/index.cfm/page/1348*. Additionally, questions about this article can be emailed to *Rosaria.Trichilo@la.gov or Jia.Benno@la.gov.*

Did you know World Rabies Day is September 28th?
It was started in 2007 to raise global awareness about rabies. The theme for 2019 is Rabies: Vaccinate to Eliminate. For the latest Louisiana annual report visit:
http://ldh.la.gov/index.cfm/page/536

(Toxic-Infection ... continued from page 1)

The almost simultaneous onset, along with fairly similar symptoms, raised the suspicion of common exposure. Examination showed normal temperature, elevated heart rate, normal respiratory rate, minor electrolyte imbalances, normal blood glucose and renal function, no anemia, normal white blood cell (WBC) distribution, and normal C-reactive protein (CRP). Causes considered were an infectious agent (bacteria, virus, or fungus), a toxi-infection, a chemical toxin, or a central nervous system acute onset.

Infection, by bacteria, virus, or fungi, does not produce an immediate reaction. They all require an incubation period. In the event that exposure had occurred a day, or even several hours before, identical incubation periods would be highly unusual. Infection can also be ruled out as the cases had no fever, no sign of focal infection, normal WBC count and normal CRP.

Exposure to a mycotoxin, such as the consumption of a small growth of mold on bread, does not cause an immediate and severe response. Moreover, one person did not report mold on the sandwich.

The possibility of a toxic substance exposure would require a toxic substance in the snow cone or the sandwich. However, one person did not eat the snow cone and no one else that ate a sandwich showed any symptoms.

There were no reports of seizures or on-going symptoms, simply reports of temporary altered mental status. Also, cases presented with no typical signs of persisting neurologic deficits to suggest cerebrovascular accidents or long-term neurologic disease.

The clinical picture at admission was not typical of heat stroke or heat exhaustion, but the patients may have had some time to cool down prior to admission, making it difficult to elicit all the characteristics of a heat-related condition.

Within a few hours their symptoms improved and they were transferred to another hospital. By the following morning, both patients had made complete recoveries and were discharged home. The more likely diagnosis was heat-related illness.

Save the Date

Infectious Disease Field Epidemiology Training (FET)

Leesville - Wednesday, August 21, 2019

Morgan City - *Rescheduled for* Wednesday, September 18, 2019

(GuLF STUDY Oil Spill ... continued from page 4)

levels and some neurologic symptoms were suggestive. Environmental styrene exposure levels may be sufficient to elicit symptomatic neurotoxic effects.

Publication: Werder EJ, Sandler DP, Richardson DB et al. J Expo Sci Environ Epidemiol. 2018 Dec 13. doi: 10.1038/s41370-018-0098-x. Determinants of environmental styrene exposure in Gulf coast residents.

Conclusion: Personal predictors of increasing blood styrene levels included smoking, vehicle emissions, and housing characteristics. There was a suggestive association between ambient and blood styrene. The measures of increased regional exposure opportunity do not fully explain the observed elevated blood styrene levels in this population.

Publication: Strelitz J, Engel LS, Kwok RK, Miller AK, Blair A, Sandler DP. Environ Health. 2018 Aug 25:17(1):69. doi: 10.1186/s12940-018-0408-8. Deepwater Horizon oil spill exposures and nonfatal myocardial infarction in the GuLF STUDY.

Conclusion: This is the first study to assess the associations between oil spill exposures and MI. Results suggest that working on the spill for > 180 days and stopping work due to heat increased risk of nonfatal MI. Future research should evaluate whether the observed associations are related to specific chemical exposures or other stressors associated with the spill.

Publication: Gam KB, Engel LS, Kwok RK, Curry MD, Stewart PA, Stenzel MR, McGrath JA, Jackson WB, Lichtveld MY, Sandler DP. Envron Int. 2018 Dec;121(Pt1):695-702. doi: 10.1016/j.envint.2018.09.058. Association between Deepwater Horizon oil spill response and cleanup work experiences and lung function.

Conclusion: Lung function measures did not differ by THC exposure levels among clean-up workers. The aim was to assess the relationship between THC exposures attributed to oil spill clean-up work, and lung function, one to three years after the DWH disaster. A large cohort of adults, who worked on response to the disaster, and others who were safety-trained but did not work, were assessed. Data from 6,288 workers was analyzed with two acceptable spirometry tests. THC exposure levels were estimated with a job exposure matrix. Lung function was evaluated using the forced expiratory volume in 1 second (FEV1; mL), the forced vital capacity (FVC; mL), and the FEV1/FVC ratio (%).

Visit *https://gulfstudy.nih.gov/en/participation.html* and *https://gulfstudy.nih.gov/en/publications.html for references*.

For more information or to register for an upcoming FET visit:

http://www.ldh.la.gov/index.cfm/page/1816

Table 1. Communicable Disease Surveillance, Incidence by Region and Time Period, May-June, 2019

DISEASE		HEALTH REGION 1	2	3	4	5	6	7	8	9	TIME PERIOD May-Jun 2019	May-Jun 2018	Jan-Jun Cum 2019	Jan-Jun Cum 2018	Jan-Jun % Chg*
Vaccine-preventable															
Hepatitis B Acute[3]	Cases	0	1	3	1	1	1	0	1	1	9	6	31	19	63.2%
	Rate[1]	0.0	0.2	0.8	0.0	0.4	0.3	0.0	0.3	0.3	0.2	0.1	0.7	0.4	NA*
Measles (rubeola)[4]		0	0	0	0	0	0	0	0	0	0	1	0	2	NA*
Mumps[4]		2	0	0	10	0	32	1	31	0	76	5	153	7	2085.7%
Rubella[3]		0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Pertussis[4]		3	2	2	6	0	0	2	0	0	15	23	49	67	-26.9%
Sexually-transmitted															
HIV/AIDS	Cases[2]	69	34	5	18	15	14	25	9	15	204	184	573	513	11.7%
	Rate[1]	7.7	5.0	1.3	3.0	4.9	4.7	4.7	2.6	2.5	4.4	3.9	12.3	11.0	NA*
Chlamydia	Cases	723.0	397.0	236.0	282.0	103.0	160.0	389.0	259.0	223.0	2778.0	3128.0	14895.0	15025.0	-0.00865
	Rate[1]	80.8	58.3	59.3	46.6	33.8	53.2	72.5	74.2	37.9	59.6	67.1	319.6	322.4	N/A
Gonorrhea	Cases	238	119	73	93	40	67	136	99	80	946	1036	4835	4657	0.03822
	Rate[1]	26.6	17.5	18.3	15.4	13.1	22.3	25.3	28.3	13.6	20.3	22.2	103.8	99.9	N/A
Syphilis (P&S)	Cases	17.0	7.0	5.0	0.0	2	9	6	5	3.0	54.0	61.0	251.0	260.0	0.0
	Rate[1]	1.9	1.0	1.3	0.0	0.66	2.994	1.118	1.43	0.5	1.2	1.3	5.4	5.6	N/A
Enteric															
Campylobacter[4]		8	19	7	79	18	9	9	18	9	176	152	445	367	21.3%
Hepatitis A[3]	Cases	7	57	9	11	4	0	1	29	51	169	2	279	5	5480.0%
	Rate[1]	0.7	10.0	2.4	2.1	1.5	0.0	0.2	8.3	13.2	3.9	0.0	6.5	0.1	54.8
Salmonella[4]	Cases	32	28	33	35	14	10	13	15	20	200	210	409	415	-1.4%
	Rate[1]	3.1	4.9	8.8	6.8	5.2	3.3	2.6	4.3	5.2	4.6	4.9	9.5	9.6	NA*
Shigella[4]	Cases	13	9	2	45	5	3	6	2	4	89	48	152	114	33.3%
	Rate[1]	1.3	1.6	0.5	8.7	1.9	1.0	1.2	0.6	1.0	2.1	1.1	3.5	2.6	NA*
Vibrio cholera[3]		0	0	0	0	0	0	0	0	0	0	1	0	1	NA*
Vibrio, other[4]		3	5	10	2	0	1	0	0	3	24	24	48	47	NA*
Other															
H. influenzae (invasive)[4]		1	4	2	3	0	2	1	0	3	16	9	48	49	NA*
N. Meningitidis (invasive)[4]		0	1	0	0	0	0	0	0	0	1	0	1	0	NA*

1 = Cases Per 100,000

2=These totals reflect persons with HIV infection whose status was first detected during the specified time period. This includes persons who were diagnosed with AIDS at time HIV was first detected. Due to delays in reporting of HIV/AIDS cases, the number of persons reported is a minimal estimate. Data should be considered provisional.

3=Confirmed cases

4=Confirmed and Probable cases

* Percent Change not calculated for rates or count differences less than 5

Figure: Department of Health Regional Map

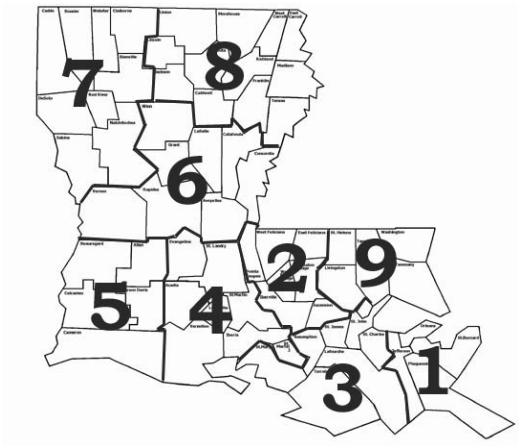

Table 2. Diseases of Low Frequency (January-June, 2019)

Disease	Total to Date
Legionellosis[3]	19
Lyme Disease[4]	1
Malaria[3]	4
Rabies, animal	5
Varicella[4]	38

Table 3. Animal rabies (January-June, 2019)

Parish	No. Cases	Species
DeSoto	1	skunk
St. Tammany	1	yellow bat

Sanitary Code - State of Louisiana
Part II - The Control of Disease

LAC 51:II.105: The following diseases/conditions are hereby declared reportable with reporting requirements by Class:

Class A Diseases/Conditions - Reporting Required Within 24 Hours

Diseases of major public health concern because of the severity of disease and potential for epidemic spread-report by telephone immediately upon recognition that a case, a suspected case, or a positive laboratory result is known; [in addition, all cases of rare or exotic communicable diseases, unexplained death, unusual cluster of disease and all outbreaks shall be reported.

- *Acinetobacter* spp., carbapenem-resistant
- Acute Flaccid Paralysis including Acute Flaccid Myelitis
- Amoeba (free living) infection (including *Acanthamoeba, Naegleria, Balamuthia* & others)
- Anthrax
- Avian or Novel Strain Influenza A (initial detection)
- Botulism
- Brucellosis
- *Candida auris,* as well as common misidentifications of *C. auris* (e.g., *C. haemolunii, C.duobushaemolunii, C. famata, C. lusitaniae, C. sake, C. parapsilosis, C. catenulata, C. guilli-ermondii*, and *Rhodotorula glutinis*)
- Cholera
- *Clostridium perfringens* (foodborne infection)
- Diphtheria
- Enterobacteriaceae, carbapenem-resistant
- Fish/Shellfish Poisoning (domoic acid, neurotoxic shellfish poisoning, ciguatera, paralytic shellfish poisoning, scombroid)
- Foodborne Illness
- *Haemophilus influenzae* (invasive infection)
- Influenza-associated Mortality
- Measles (Rubeola imported or indigenous)
- Melioidosis (*Burkholderia pseudomallei*)
- *Neisseria meningitidis* (invasive infection)
- Outbreaks of Any Infectious Disease
- Pertussis
- Plague (*Yersinia pestis*)
- Poliomyelitis (paralytic & non-paralytic)
- *Pseudomonas aeruginosa*, carbapenem-resistant
- Q Fever (*Coxiella burnetii)*
- Rabies (animal and human)
- Ricin Poisoning
- Rubella (congenital syndrome)
- Rubella (German Measles)
- Severe Acute Respiratory Syndrome-associated Coronavirus (SARS-CoV)
- Smallpox
- *Staphylococcus aureus*, Vancomycin Intermediate or Resistant (VISA/VRSA)
- Staphylococcal Enterotoxin B (SEB) Pulmonary Poisoning
- Tularemia (*Francisella tularensis*)
- Viral Hemorrhagic Fever (Ebola, Lassa, Marburg, Crimean Congo, etc.)
- Yellow Fever

Class B Diseases/Conditions - Reporting Required Within 1 Business Day

Diseases of public health concern needing timely response because of potential of epidemic spread-report by the end of the next business day after the existence of a case, a suspected case, or a positive laboratory result is known.

- Anaplasmosis
- Arthropod-Borne Viral Infections (West Nile, Dengue, St, Louis, California, Eastern Equine, Western Equine, Chikungunya, Usutu, Zika & others)
- Aseptic Meningitis
- Babesiosis
- Chagas Disease
- Chancroid
- Cryptosporidiosis
- Cyclosporiasis
- *Escherichia coli*, Shiga-toxin producing (STEC), including *E. coli* O157:H7
- Granuloma Inguinale
- Hantavirus (infection or Pulmonary Syndrome)
- Hemolytic-Uremic Syndrome
- Hepatitis A (acute illness)
- Hepatitis B (acute illness and carriage in pregnancy)
- Hepatitis B (perinatal infection)
- Hepatitis C (acute illness)
- Hepatitis C (perinatal infection)
- Hepatitis E
- Herpes (neonatal)
- Human Immunodeficiency Virus [(HIV), infection in pregnancy][2,6]
- Human Immunodeficiency Virus[(HIV), perinatal exposure][2,6]
- Legionellosis
- Listeriosis
- Malaria
- Mumps
- Salmonellosis
- Shigellosis
- Syphilis[1]
- Syphilis [(*Treponema pallidum*), infection in pregnancy][1,6]
- Syphilis [(*Treponema pallidum*), perinatal exposure][1,6]
- Tetanus ,
- Tuberculosis[3] (due to *M. tuberculosis*, *M. bovis, or M. africanum*)
- Typhoid Fever
- *Vibrio* infections (other than cholera)
- Zika Virus-associated Birth Defects

Class C Diseases/Conditions - Reporting Required Within 5 Business Days

Diseases of significant public health concern-report by the end of the workweek after the existence of a case, suspected case, or a positive laboratory result is known.

- Acquired Immune Deficiency Syndrome[3] (AIDS)
- *Anaplasma Phagocytophilum*
- Aspergillosis
- Blastomycosis
- Campylobacteriosis
- Chlamydial infection[1]
- Coccidioidomycosis
- Cryptococcosis (*C. neoformans* and *C. gattii*)
- Ehrlichiosis (human granulocytic, human monocytic, *E. chaffeensis* and *E. ewingii)*
- *Enterococcus*, Vancomycin Resistant [(VRE), invasive disease]
- Giardiasis
- Gonorrhea[1] (genital, oral, ophthalmic, pelvic inflammatory disease, rectal)
- Guillain-Barré Syndrome
- Hansen's Disease (leprosy)
- Hepatitis C ((infection, other than as in Class B)
- Histoplasmosis
- Human Immunodeficiency Virus[2] (HIV (infection other than as in Class B)
- Human T Lymphocyte Virus (HTLV I and II infection)
- Leptospirosis
- Lyme Disease
- Lymphogranuloma Venereum[1]
- Meningitis, Eosinophilic (including those due to *Angiostrongylus* infection)
- Nontuberculous Mycobacteria
- Nipah Virus Infection
- Non-gonococcal Urethritis
- Ophthalmia neonatorum
- Psittacosis
- Spotted Fevers [*Rickettsia* species including Rocky Mountain Spotted Fever (RMSF)]
- *Staphylococcus aureus* (MRSA), Invasive Infection
- Staphylococcal Toxic Shock Syndrome
- Streptococcal Disease, Group A (invasive disease)
- Streptococcal Disease, Group B (invasive disease)
- Streptococcal Toxic Shock Syndrome
- *Streptococcus pneumoniae*, invasive disease
- Transmissible Spongiform Encephalopathies (Creutzfeldt-Jacob Disease & variants)
- Trichinosis
- Varicella (chickenpox)
- Yersiniosis

Class D Diseases/Conditions - Reporting Required Within 5 Business Days

- Cancer
- Carbon Monoxide Exposure and/or Poisoning[5]
- Complications of Abortion
- Congenital Hypothyroidism[4]
- Galactosemia[4]
- Heavy Metal (arsenic, cadmium, mercury) Exposure and/or Poisoning (all ages)[5]
- Hemophilia[4]
- Lead Exposure and/or Poisoning (all ages)[4, 5]
- Pesticide-Related Illness or Injury (all ages)[5]
- Phenylketonuria[4]
- Pneumoconiosis (asbestosis, berylliosis, silicosis, byssinosis, etc.)[5]
- Radiation Exposure, Over Normal Limits[5]
- Reye's Syndrome
- Severe Traumatic Head Injury
- Severe Undernutrition (severe anemia, failure to thrive)
- Sickle Cell Disease[4] (newborns)
- Spinal Cord Injury
- Sudden Infant Death Syndrome (SIDS)

Case reports not requiring special reporting instructions (see below) can be reported by mail or facsimile on Confidential Disease Report forms (2430), fascimile (504) 568-8290, telephone (504) 568-8313, or (800) 256-2748 for forms and instructions.

[1]Report on STD-43 form. Report cases of syphilis with active lesions by telephone, within one business day, to (504) 568-8374.

[2]Report to the Louisiana STD/HIV Program: Visit www.hiv.dhh.louisiana.gov or call 504-568-7474 for regional contact information.

[3]Report on form TB 2431 (8/94). Mail form to TB Control Program, DHH-OPH, P.O. Box 60630, New Orleans, LA. 70160-0630 or fax both sides of the form to (504) 568-5016

[4]Report to the Louisiana Genetic Diseases Program and Louisiana Childhood Lead Poisoning Prevention Programs: www.genetics.dhh.louisiana.gov or fascimile (504) 568-8253, telephone (504) 568-8254, or (800) 242-3112

[5]Report to the Section of Environmental Epidemiology and Toxicology, Occupational Health and Injury Surveillance Program: www.seet.dhh.louisiana.gov or call (504) 568-8150 or (888) 293-7020 or fax (504) 568-8149

[6]Report to the Louisiana STD/HIV Program on HIV/Syphilis during Pregnancy Reporting Form: Visit www.hiv.dhh.louisiana.gov or call 504-568-7474

Reference Cultures/Specimens to State Laboratory: Visit http://ldh.la.gov/assets/oph/Center-PHCH/Center-CH/infectious-epi/IsolatesToSendToStateLab_2019.pdf.

All **laboratory facilities** shall, in addition to reporting tests indicative of conditions found in §105, report positive or suggestive results for additional conditions of public health interest. The following findings shall be reported as detected by laboratory facilities: 1. adenoviruses; 2. coronaviruses; 3 .enteroviruses; 4. hepatitis B (carriage other than in pregnancy); 5. hepatitis C (past or present infection); 6. human metapneumovirus; 7. parainfluenza viruses; 8. respiratory syncytial virus; and 9. rhinoviruses.