

Louisiana Morbidity Report



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Healthy and Safe Swimming Week-2018

Angie Orellana, MPH

The 14th annual Healthy and Safe Swimming Week is May 21 - 25, 2018. The goal of this week is to provide information to help ensure a healthy and safe swimming experience for everyone. This week calls attention to the responsibility of swimmers, parents and caregivers, aquatics staff, and home pool owners to help prevent recreational water illnesses, drownings, and injuries.



A particular focus of this week is to prevent recreational water illnesses, especially diarrhea, from spreading. Swimmers who are already sick with diarrhea, or who have been sick in the last two weeks - risk contaminating recreational water, such as pools, hot tubs, splash pads, and water parks, with germs. Diarrheal illnesses spread via water are often caused by germs like *Cryptosporidium* ("Crypto"), *Giardia*, norovirus, Shigella, and *E. coli*. These microorganisms can survive for minutes, up to days in pools and other recreational waters, even properly treated ones.

The parasite Crypto, for instance, has a tough outer shell that makes it very tolerant to chlorine disinfection and able to survive for a long time out in the environment. It can last for several days in well-chlorinated pools. Crypto is found throughout the U.S. and the world and is the most common cause of recreational water linked outbreaks.

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Varicella Update Louisiana, 2017

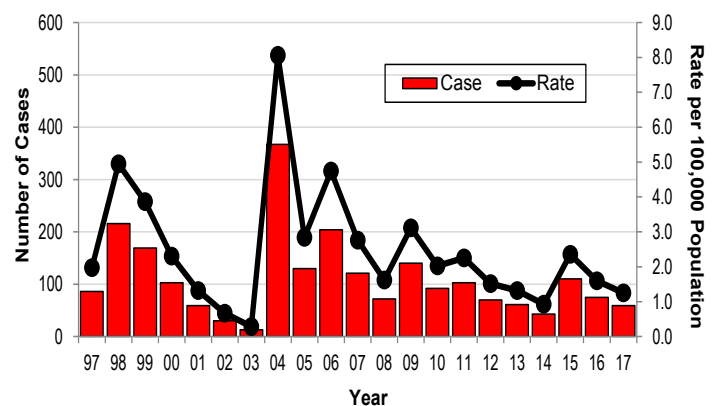
Ajibike Lapite MD MPH

This is a review of the supplemental information collected on 137 recent cases investigated in 2016 and 2017. As varicella vaccine coverage increases and the burden of this vaccine-preventable disease decreases, the necessity for varicella disease surveillance grows. Such surveillance allows us to detect changes in the epidemiology of varicella.

Varicella (chickenpox) is the primary infection caused by the varicella-zoster virus (VZV), which consists of blister-like rash, itching, fatigue and fever. Illness usually lasts five to ten days. Humans are the only source of infection. Varicella is highly infectious with secondary infection rates in susceptible household contacts approaching 90%. Transmission occurs from person-to-person, by direct contact with patients with either varicella or zoster lesions, or by airborne spread from respiratory secretions.

Varicella became a reportable disease in 1997. In Louisiana, rates steadily declined from 1998 to 2003, but peaked again in 2004 with a rate of 8.06 cases per 100,000 population. Rates have steadily gone down since. There were 75 cases reported in 2016 and 59 cases reported in 2017 (Figure).

Figure: Varicella cases and incidence rates - Louisiana, 1997-2017



Age, Sex and Race

Varicella predominantly affects younger populations: 58% of varicella cases were younger than five years of age. Varicella cases are highest in the newborn to one-year-old age group, with 53% being female and 47% males (difference not significant $\chi^2=0/04$, $p=0.84$).

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(Healthy and Safe ... continued from page 1)

All it takes is for a tiny amount of infected fecal matter to contaminate recreational waters. People who get into the water can carry in, and also spread germs throughout the water. Other people then get sick if they swallow this germ-laden water, even just a mouthful. Children, pregnant women, and people with weakened immune systems are most at risk for becoming ill.

Swimmers can take an active role in protecting themselves and preventing the spread of germs by following a few simple steps:

- **Stay out of the water if you have diarrhea.** Diarrhea and swimming don't mix!
- **Stay out of the water if you have an open wound that is not covered with a waterproof bandage.**
- **Shower before you get in the water.** Showering removes most of the dirt, sweat, and anything else on your body that can use up the pool chemicals ability to fight germs.
- **Don't urinate or defecate in the water.**
- **Don't swallow the water.** Avoid getting it in your mouth.
- **Every hour - everyone out!**
 - Take kids on bathroom breaks.
 - Check diapers and change them in a bathroom or diaper changing area - not poolside - to keep germs away from the pool.
 - Reapply sunscreen.
 - Drink plenty of fluids.

From 2014 to 2016, Louisiana had the highest rate of drownings in the U.S. for children ages one to 14 years; drowning was also the second leading cause of death for Louisiana children of this age group. Drownings occur most frequently in swimming pools (44%); followed by bathtub, pond, canal, bucket, sewer, storm drain, fountain, etc. (collectively 34%); and lastly a natural body of water (22%).

Get out and enjoy the water this summer and remember: Think healthy. Swim healthy. Stay healthy!

For more information go to: <http://ldh.la.gov/assets/oph/Center-PHCH/Center-CH/infectious-epi/EpiManual/CryptosporPublicInfo.pdf>; <https://www.poolsafely.gov>; and <http://new.dhh.louisiana.gov/index.cfm/page/535>.

IDEpi Question/Answer Corner

How do I find out about beach advisories?

The Louisiana Department of Health (LDH)'s Beach Monitoring Program tests water at 24 beach sites along the Louisiana coast to determine whether the water quality meets Environmental Protection Agency (EPA) criteria. Water samples are collected weekly during Louisiana's beach season from April 1st through October 31st. During this seasonal period in 2017, a total of 772 samples were collected at these 24 beach stations.

The beach stations are classified into tiers. Tiers provide different levels of monitoring and public notification so that beaches with a greater density of swimmers, and thus the greatest number of people at risk, receive higher levels of monitoring and public notification than lower use beaches. Monitoring and public notification procedures are exactly the same at Tier 1 and Tier 2 beaches, but differ in density of sample stations. Beaches classified as having very high, high, or moderate to high use were

assigned to Tier 1 and receive the most monitoring attention. Beaches classified as having moderate use were assigned to Tier 2. The estimated number of swimmers at each beach was based on information obtained primarily from law enforcement officials responsible for patrolling the beach and from park managers.

Table: Swimmer Estimates per Week – May 1-Labor Day

Category of Use	Estimated Number of Swimmers
Very Low	<5,000
Low	5,000 to <10,000
Moderate	10,000 to <15,000
High	15,000 to 20,000
Very High	>20,000

An advisory is NOT a closure of the beach or its facilities; rather it is an alert to the public about possible unhealthy water conditions. All areas remain open for boating, fishing and land-based activities. The advisory remains in effect until LDH samples show water bacterial levels are acceptably lowered.

Seventy-one (71) advisories were issued during the 2017 swim season. Advisories were issued at all Tier 1 or 2 sample stations during 2017 based on observed water quality exceedances. LDH analyzes the beach water for enterococci and fecal coliform bacteria. These bacteria represent those commonly found in sewage pollution, and which could cause disease, infections or rashes. If bacteria levels are detected, LDH issues an advisory, and swim advisory signs posted near the shoreline are opened to advise beachgoers to refrain from swimming until bacteria levels are in compliance with federal guidelines

High bacteria levels can occur because of runoff following a storm, area livestock and wildlife or human sewage. These bacteria indicate the possible presence of disease-causing organisms that can cause sore throat, vomiting, diarrhea, cramping or fever. Swallowing the water or dunking your head underwater increases the risk of illness. This is especially important for the elderly, babies, small children and people who are chronically ill or have compromised immune systems.

Health officials testing water at beach sites will advise the public when bacteria levels are back in compliance. However, the public should be aware that there is always a slight risk of bacterial contamination. People are advised to swim at their own risk.

For more information about closures go to <http://ldh.la.gov/index.cfm/page/288>.

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Leptospirosis: Louisiana, 2016

With the report of two cases of leptospirosis in Louisiana residents after the flooding in the Baton Rouge area, attention was focused on the presence of leptospira in wild animals. The flooding event affected the 21 parishes surrounding Lafayette, Baton Rouge and occurred from August 12th to August 22nd, 2016.

According to Frawley, et al in the Centers for Disease Control and Prevention’s *Mortality and Morbidity Weekly Report, Notes from the Field - Post Flooding Leptospirosis - Louisiana 2016*, leptospira is very prevalent in Louisiana wildlife. Humans can be infected by contact with animal urine or soil contaminated with urine.

A comprehensive report on the epidemiology of leptospirosis in Louisiana shows the extensive presence of leptospira among a wide diversity of wild/domestic animals (Table 1).

Table1: Leptospiral Serotypes Among Animals in Louisiana

Leptospirosis Serotype	Animal Hosts
<i>L. icterohaemorrhagiae</i>	Rats, nutria, striped skunks, dogs
<i>L. canicola</i>	Dogs, striped skunks, armadillos, raccoons
<i>L. pomona</i>	Striped skunks, swine, cattle, deer, opossums, armadillos, bobcats, horses
<i>L. ballum</i>	House mice, opossums, striped skunks, rats
<i>L. grippityphosa</i>	Raccoons, opossums, striped skunks
<i>L. paidjan</i>	Nutria, opossums, raccoons
<i>L. autumnalis</i>	Opossums, raccoons, armadillos
<i>L. hardjo</i>	Cattle
<i>L. mini georgia</i>	Opossums, striped skunks, raccoons
<i>L. australis</i>	Raccoons, opossums, striped skunks, nutria
<i>L. hyos hyos</i>	Striped skunks, opossums
<i>L. atchafalaya</i>	Opossums
<i>L. zanoni</i>	White tailed deer
<i>L. zanoni myocastoris</i>	Nutria
<i>L. louisiana</i>	Armadillos
<i>L. orleans</i>	Nutria
<i>australis types</i>	Beavers, nutria, striped skunks, raccoons
<i>autumnalis types</i>	Opossums, armadillos

Roth, et al, *The Epidemiology of Leptospirosis in Louisiana - Journal of the Louisiana State Medical Society: May, 1965: 117:110-5*

Infection rates in animals can be quite high (Table 2).

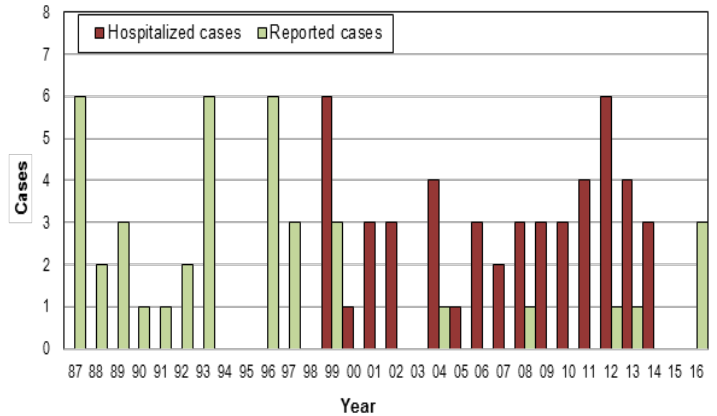
Table 2: Leptospiral Infection Rate in Animals - Louisiana

Species	Infection Rate
Rats	50%-70%
Mice	10%
Striped skunks	10%
Opossum	20%
Feral Hogs	80%

Roth, et al, *The Epidemiology of Leptospirosis in Louisiana - Journal of the Louisiana State Medical Society: May, 1965: 117:110-5*

Incidence of Leptospirosis is low, with less than ten cases reported a year. A comparison of cases reported to the Louisiana Office of Public Health and hospitalized cases from The Louisiana Inpatient Hospital Discharge Data (LaHIDD) shows that reporting has declined since 1999 but hospitalized cases continue to be diagnosed (Figure).

Figure: Leptospirosis reported and hospitalized* cases - Louisiana, 1987-2016 (*LaHIDD data available 1999-2014)



The *Leptospira* bacteria are spread through the urine of infected animals, including cattle, pigs, horses, dogs, rodents and wild animals. Humans can become infected through direct contact with urine of infected animals or through contact with water, soil or food contaminated with urine of infected animals. The bacteria can survive in the environment for weeks to months. Bacteria enter the body through skin or mucous membranes, and drinking contaminated water can also cause infection. Outbreaks are usually caused by exposure to contaminated water, such as floodwaters. The infection is rarely spread person-to-person.

Approximately 90% of patients with leptospirosis experience a nonspecific, self-limited illness with symptoms of fever, chills, nausea, or headache. Pain in the calf and low back muscles and conjunctival suffusion without purulent discharge are distinctive features. Approximately 10% of patients develop severe illness, which is characterized by any combination of jaundice, renal failure, aseptic meningitis, cardiac arrhythmia, gastrointestinal symptoms, pulmonary hemorrhage, or circulatory collapse and is associated with a 5% to 15% case fatality rate.

For more information, contact Dr. Gary Balsamo at (504)568-8315 or email gary.balsamo@la.gov.

Save the Date!

Field Epidemiology Training -2018

Lake Charles - July 17
 New Orleans - August 22
 Natchitoches - September 19

This is a one-day workshop sponsored by the Department of Health’s, Office of Public Health, Infectious Disease Epidemiology Section. It targets nurses, laboratory personnel, sanitarians, and other health care professionals interested in epidemiological principles and outbreak investigations.

This workshop is free to attend, but must be registered for because of seating limitations and to provide the adequate number of handouts. Nurse, laboratory and sanitarian education credits have been applied for.

Please go to <http://ldh.la.gov/index.cfm/page/1816> for a registration form and more information.

Evaluation of the Louisiana Early Event Detection System for Timely Capture of Work-related Amputations

Anna Reilly, PhD MPH; George Singletary, MD MPH; Rachel Dauterive, MD MPH

On January 1, 2015, the Occupational Safety and Health Administration (OSHA) began enforcing its updated Recordkeeping Rule regarding severe injury reporting, which requires employers to report all work-related inpatient hospitalizations, amputations, and losses of an eye within 24 hours of occurrence. Previously, employers were only required to report inpatient hospitalizations of three or more employees for a single event. The rule was updated to improve access to information about workplace safety and health and allow OSHA to utilize these types of injuries as sentinel events to trigger investigations into specific workplaces. Investigations frequently uncover other safety issues at the work site which, when corrected, prevent further worker injury.

In 2015, United States employers reported 2,723 work-related amputations to OSHA; Louisiana employers reported 55 of these. Because accurate capture of cases relies on employer reporting, there are concerns about under-reporting. The Bureau of Labor Statistics collects work-related injury and illness data from 230,000 private industry, state, and local government establishments each year for the Survey of Occupational Injuries and Illnesses (SOII). Though not administered by OSHA, the SOII uses OSHA's recordkeeping guidelines to make data collection convenient. In addition, the SOII encompasses industries not regulated by OSHA, such as railroad and mining.

In 2015, SOII captured 220 work-related amputations with days away from work in Louisiana, 3.8 times the number of work-related amputations reported by employers to OSHA that year. The large difference in the number of cases reported to OSHA versus the SOII adds to concerns that employers are under-reporting severe work-related injuries to OSHA. While the difference may be at least partially explained by the difference in the scope of employers included in the SOII versus those regulated by OSHA, a likely contributing factor is employer knowledge that SOII data is for statistical purposes only and cannot be used for any regulatory purpose. There are concerns that, for a variety of reasons, the SOII also undercounts injuries and illnesses; therefore, the actual number of work-related amputations that occurred in Louisiana in 2015 may be higher than 220.

The Louisiana Department of Health (LDH), Occupational Health and Injury Surveillance Program (Occ. Health Program), supports OSHA's efforts to protect worker safety and health. The

Occ. Health Program currently tracks work-related injuries using the Louisiana Hospital Inpatient Discharge Database (LAHIDD) and emergency department (ED) databases; however, there are issues with these data sources. They do not directly capture work-relatedness. In occupational health, work-related cases are commonly captured by selecting records that have workers' compensation as a payer or a work-related external cause of injury ICD code in one of the diagnostic fields; however, it is generally accepted that this method will undercount cases. Additionally, LAHIDD and ED data are retrospective; data is typically not received until a year or more after occurrence. Consequently, LAHIDD and ED records cannot be used for OSHA case referral because work site investigations must be completed within six months of the injury occurrence.

A pilot project was carried out to evaluate the usefulness of the Louisiana Early Event Detection System (LEEDS) in identifying work-related amputations in a timely enough manner to make case referral to OSHA feasible. LEEDS is a near real-time reporting syndromic surveillance system that receives data from 70 emergency departments in the state. A syndrome is assigned to each LEEDS record based on the text contents of the chief complaint, admit reason, and discharge diagnosis fields. The Occ. Health Program receives a subset of LEEDS data biweekly from LDH's Infectious Disease Epidemiology Program, containing potentially work-related syndromes; amputation is one of these syndromes.

While evaluation of the LEEDS data was the primary goal of this project, LAHIDD (2000-2014) and ED (2010-2012) data was summarized to provide a snapshot of the scope of work-related amputations in the state. The site of amputation for most inpatient hospitalizations (n=682) was finger/thumb (62.0%), followed by lower limb (18.3%), and toe amputations (13.0%). Upper limb amputations and multiple site amputations each comprised less than 5% of work-related amputation hospitalizations. The amputation site for nearly all ED visits (n=515) was finger/thumb (92%), followed by lower limb amputations (3.3%); all other sites each comprised less than 3% of work-related ED amputation visits.

Table 1 displays the distribution of work-related amputation hospitalizations and ED visits stratified by sex, age, and race as well as crude rates and rate ratios with 95% confidence intervals (CI).

(continued on page 5)

Announcements

Updates: *Infectious Disease Epidemiology (IDEpi) Webpages*
www.infectiousdisease.dhh.louisiana.gov

Annual: Babesiosis; Blastomycosis; Campylobacter; Cryptococcus; Cryptosporidiosis; Cyclosporiasis; Dengue; Ehrlichiosis and Anaplasmosis

Antibiotic Sensitivity: Louisiana Antibioqram 2015

Epi Manual: Boil Water Advisory; Brucellosis; Brucellosis Form (CDC); Cyclospora May-August Form (CDC); Hepatitis A; Listeria Form-Spanish (CDC); Meningococcal Meningitis

Influenza: Weekly Report

Louisiana Morbidity Report: Index 1967-2014

(Evaluation ... continued from page 4)

Table 1. Distribution, Crude Rates and Ratios of Work-Related Amputation Hospitalizations and ED Visits by Sex, Age, and Race - Louisiana, 2000-2014

	LAHIDD, 2000-2014			ED, 2010-2012		
	Count	Rate *	Rate Ratio (95% CI)	Count	Rate *	Rate Ratio (95% CI)
Louisiana	682	2.36	---	515	8.96	---
Sex						
Male	633	4.16	11.62 (8.69, 15.88)	467	15.34	8.64 (6.41, 11.89)
Female	49	0.36	Reference	48	1.78	Reference
Age Group (Years)						
16-24	86	4.21	2.39 (1.47, 4.05)	95	12.89	2.45 (1.42, 4.56)
25-34	149	2.35	1.33 (0.84, 2.21)	115	8.98	1.71 (0.99, 3.15)
35-44	165	2.42	1.37 (0.87, 2.28)	114	8.79	1.67 (0.97, 3.09)
45-54	167	2.53	1.43 (0.91, 2.38)	123	9.55	1.82 (1.06, 3.35)
55-64	94	2.48	1.41 (0.87, 2.38)	53	6.18	1.18 (0.65, 2.25)
65+	21	1.76	Reference	15	5.25	Reference
Race[^]						
White	362	1.77	Reference	317	7.86	Reference
Black	157	2.01	2.01 (0.93, 1.37)	110	7.08	0.90 (0.72, 1.12)
Other	79	11.89	6.71 (5.19, 5.58)	49	30.49	3.88 (2.81, 5.26)

Within each stratification, a reference group is identified. Rate ratios compare the rate of each sub-strata to the reference group. Bold rate ratio indicates statistical significance; *Rates are per 100,000 Louisiana workers; ^ Does not include cases where race was unknown (n=34). For rate calculation, Louisiana's employed population was obtained using the National Institute of Occupational Safety and Health Work-related Injury Statistics and Resource Data System's Employed Labor Force application, which utilizes data from the BLS Current Population Survey.

Approximately 1.5 months of LEEDS data (9/17/17-11/1/17) was queried for the syndromic keyword 'AMPUTATE' and limited to patients aged 16 to 80 years. This resulted in 78 potentially work-related amputation records. Of the 78 records, 32 were excluded because the amputation was due to a medical condition, such as diabetes mellitus or osteomyelitis, or because there was more than one record captured in LEEDS for the same patient on the same day. The medical records for the remaining 46 cases were requested from the treating facility so that physician notes and payer information could be reviewed. OSHA requires employer information in order to open an investigation; therefore, an attempt was made to identify employer information in the medical record. Thirty-three (71.7%) of the requested medical records were received.

Table 2 shows the final determination of work-relatedness for the LEEDS data set (n=46) stratified by sex, age group, race, and body part. Eleven work-related amputation cases were identified from LEEDS data (n=1) or by physician's note and/or workers'

compensation as payer in the medical record (n=10).

Table 2. Amputations by Work-Relatedness, Age, Sex, Race, and Body Part, LEEDS, 9/17/2017-11/01/2017

	Total	Work-Related	Not Work-Related	Undetermined*
Louisiana	46	11	11	24
Sex				
Male	43	11	10	22
Female	3	0	1	2
Age Group (Years)				
16-24	7	3	2	2
25-34	9	1	2	6
35-44	10	4	1	5
45-54	7	2	4	1
55-64	7	1	1	5
65+	6	0	1	5
Race				
White	25	4	8	13
Black	6	2	0	4
Other	2	1	1	0
Unknown	13	4	2	7
Body Part				
Finger/Thumb	42	10	10	22
Upper Limb	1	0	0	1
Toe	3	1	1	1
Lower Limb	0	0	0	0

* Undetermined includes medical records that were not received as well as those for which work-relatedness was still unclear after medical record review.

Only two work-related records contained employer name; however, contact was made with the area director of OSHA to see if it was possible to link any of the cases identified in LEEDS with cases reported to OSHA. The following information was provided to OSHA for this purpose: patient age and sex, triage date, treating facility, site of injury, and employer name (if available). None of the work-related amputation cases identified in LEEDS could be linked to cases reported to OSHA, providing further support to the concern about employer under-reporting of worker injuries to OSHA.

Although this finding validates the Occ. Health Program's endeavor to make timely identification of work-related injuries using LEEDS data, a decision was made not to pursue use of LEEDS data for this purpose. Only one case could be identified using LEEDS data alone, requiring medical record request and review of nearly 50 records for a period spanning only 1.5 months. The resources required to maintain an effort of requesting, obtaining, and reviewing such a volume of medical records are not available at this time.

For more information, please contact Anna Reilly at (504) 568-8160 or anna.reilly@la.gov.

World Hepatitis Day

July 28, 2018

International Group B Strep Throat Awareness Month

July 2018

National Immunization Awareness Month

August, 2018

For Louisiana vaccination information, please go to webpage [Healthy Babies](http://HealthyBabies) or <http://ldh.la.gov/index.cfm/page/3015>.

(Varicella Update ... continued from page 2)

Previous reports have demonstrated that males have an increased incidence of varicella compared to females in all age groups. In particular, male infants have been shown to have the highest rate of varicella cases (16.7 reported cases per 100,000 population).

In Louisiana, the White population has been shown to have the highest rates of varicella. Race/ethnic information was unavailable for 58 of the 137 cases. Of the 79 cases with reported race/ethnicity: 70% are Non-Hispanic/Latino Whites, 14% are Black/African American, 13% are Hispanic/Latino, and 3% are of Asian descent. In most of the age groups, varicella cases are most frequent in the White population. In the 25 to 34-year-old age group, all cases were from ethnic minorities. Only five cases were born abroad: China, El Salvador, Honduras, and Mexico (two cases).

Vaccination Status

Vaccination status was related to age. The current vaccine program recommends the first vaccine be given between 12 to 15

months of age and the second vaccine between four to six years of age.

- As expected, in the newborn to one-year-old age group, 21% of the cases had received a single vaccination and 79% were unvaccinated.

- Close to 100% vaccination is expected in the one to four-year-old age group. However, 67% of the cases had received a single vaccination, 26% of the cases had received two doses of the varicella vaccine and 7% were unvaccinated.

- In the five to nine-year-old age group, 82% of the cases had received both doses of varicella vaccine, 9% had received a single dose of varicella vaccine, and 9% were unvaccinated.

- In the 10 to 14 year-old age group, 10% had received a single vaccine, 62% had received both doses of the varicella vaccine, and 28% were unvaccinated.

- In the older age groups the proportion of vaccinated cases are higher. Only one case reported a previous varicella infection. In summary all cases aged older than 25 years are unvaccinated (Table).

Table: Varicella Case Numbers by Age Group, Sex, Vaccine Doses, Number of Lesions, Hospitalization and Treatment – Louisiana 2016-2017

	Age Group (Years)																Total
	0-1		1-4		5-9		10-14		15-19		20-44		45-64		65+		
Case Numbers	52		27		23		21		2		8		3		1		137
Males	26	50%	12	44%	10	43%	10	48%	1	50%	3	38%	2	67%	0	0%	64
Females	26	50%	15	56%	13	57%	11	52%	1	50%	5	63%	1	33%	1	100%	73
Vaccine 1	11	21.2%	18	66.7%	2	8.7%	2	9.5%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	34
Vaccine 2	0	0.0%	7	25.9%	19	82.6%	13	61.9%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	40
No Vaccine	41	78.8%	2	7.4%	2	8.7%	6	28.6%	0	0.0%	8	100.0%	3	100.0%	1	100.0%	63
< 50 Lesions	26	50.0%	17	73.9%	13	65.0%	11	55.0%	0	0.0%	1	20.0%	1	33.3%	1	100.0%	70
50-249 Lesions	23	44.2%	5	21.7%	5	25.0%	6	30.0%	1	100.0%	2	40.0%	2	66.7%	0	0.0%	44
250+ Lesions	3	5.8%	1	4.3%	2	10.0%	3	15.0%	0	0.0%	2	40.0%	0	0.0%	0	0.0%	11
Hospitalization	1		0		0		1		0		2		1		0		5
Tx Acyclovir /Valacyclovir	10		7		3		5		0		5		0		0		30

Rash

The presentation of the rash was similar across age groups: pruritic macular-papular rash with vesicles present, crusting, and some scabs with a generalized location. Mild varicella cases present with fewer than 50 lesions and the most severe cases present with greater than 500 lesions: 70 cases (51%) had fewer than 50 lesions; 43 cases (31%) had 50 to 249 lesions; eight cases (6%) had 250 to 499 lesions; three cases (2%) had greater than 500 lesions. More than 50% of children newborn to 14 years of age had less than 50 lesions. As age increases, the proportion of those with few lesions decreases.

Other Variables

- There were no pregnant cases.
- Only four were immunocompromised.
- Illness Period: The illness duration was reported for only 27 cases; for these cases, the average duration was one week.
- Case Status: 53 cases (39%) were confirmed cases; and 84 cases (61%) were probable cases.
- Disease Complications: four cases had disease complications; three of the four cases had pneumonia; one case had sepsis

in addition to pneumonia; one case had otitis media in addition to pneumonia; and one case had bronchitis in addition to pneumonia.

- Hospitalization: five cases were hospitalized; four of these cases had never received a dose of the varicella vaccine; one case was an 11-year-old female who had received both doses of the vaccine. Her physician reported that she had a viral illness that suppressed her immune system and led to varicella vaccine reactivation.

- Treatment: 30 cases were treated with a course of acyclovir; five cases were treated with valacyclovir; 75% of the cases were not treated with a medication.

- Disease Outcome: none of the 137 cases passed away from varicella-related complications.

- Epidemiological Link: 40 cases (29%) had an epidemiological link; 21 (53%) were linked to a confirmed varicella case; 10 cases (25%) were linked to a Herpes Zoster case; and eight cases (20%) were linked to a probable varicella case.

For more information regarding immunizations, go to <http://ldh.la.gov/index.cfm/page/547> or contact Stacy Hall at (504) 568-2600 or stacy.hall@la.gov.

Table 1: Communicable Disease Surveillance, Incidence by Region and Time Period, March-April, 2018

DISEASE	HEALTH REGION									TIME PERIOD					
	1	2	3	4	5	6	7	8	9	Mar-Apr 2018	Mar-Apr 2017	Jan-Dec Cum 2018	Jan-Dec Cum 2017	Jan-Dec % Chg*	
Vaccine-preventable															
Hepatitis B Acute Cases ⁴	0	0	0	0	0	3	0	1	0	4	16	14	31	-54.8	
Rate ¹	0	0	0	0	0	1.0	0	0.3	0	0.1	0.4	0.3	0.7	NA*	
Measles (Rubeola) Cases ⁵	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*	
Mumps Cases ⁵	1	0	0	0	0	0	0	0	0	1	50	2	53	-96.2	
Rubella Cases ⁴	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*	
Pertussis Cases ⁵	5	5	3	0	0	1	0	3	6	23	23	42	40	NA*	
Sexually-transmitted															
HIV/AIDS Cases ²	70	42	10	25	15	14	20	13	12	221	191	407	367	10.9	
Rate ¹	7.8	6.1	2.5	4.1	5.0	4.6	3.7	3.7	2.1	4.7	4.1	8.7	7.8	NA*	
Chlamydia Cases ^{1,3}	1,334	905	423	510	230	313	767	584	429	5,498	6,018	11,213	12,330	-9.1	
Rate ¹	148.7	132.2	104.6	83.7	76.3	102.4	141.1	164.8	73.8	117.4	128.5	239.5	263.4	NA*	
Gonorrhea Cases ^{1,3}	429	264	89	163	73	130	230	173	127	1,678	1,871	3,415	4,008	-14.8	
Rate ¹	47.8	38.6	22.0	26.8	24.2	42.5	42.3	48.8	21.8	35.8	40.0	72.9	85.6	NA*	
Syphilis (P&S) Cases ^{1,3}	12	15	2	1	0	8	15	2	0	55	123	124	247	-49.8	
Rate ¹	1.3	2.2	0.5	0.2	0	2.6	2.8	0.6	0	1.2	2.6	2.6	5.3	NA*	
Enteric															
Campylobacter Cases ⁵	5	8	1	74	5	5	6	6	9	119	128	212	240	-11.7	
Hepatitis A Cases ⁴	0	0	0	0	0	0	0	0	1	1	2	2	4	NA*	
Rate ¹	0	0	0	0	0	0	0	0	0.3	0	0	0	0.1	NA*	
Salmonella Cases ⁵	12	11	15	26	10	7	7	3	19	110	121	193	220	-12.3	
Rate ¹	1.2	1.9	4.0	5.0	3.7	2.3	1.4	0.9	4.9	2.5	2.8	4.5	5.1	NA*	
Shigella Cases ⁵	2	4	1	15	14	0	2	0	3	41	36	60	87	-31.0	
Rate ¹	0.2	0.7	0.3	2.9	5.2	0	0.4	0	0.8	1.0	0.8	1.4	2.0	NA*	
Vibrio, Cholera Cases ⁴	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*	
Vibrio, Other Cases ⁵	2	4	1	1	2	0	0	1	5	16	20	22	26	NA*	
Other															
<i>H. influenzae (invasive)</i> ⁵	3	2	0	0	2	2	1	1	0	11	10	36	29	24.1	
<i>N. Meningitidis (invasive)</i> ⁵	0	0	0	0	0	0	0	0	0	0	1	0	3	NA*	

¹ = Cases Per 100 000 Population.

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

³ = Preliminary data.

⁴ = Confirmed cases

⁵ = Confirmed and Probable cases

* = Percent change not calculated for rates or count differences less than 5.

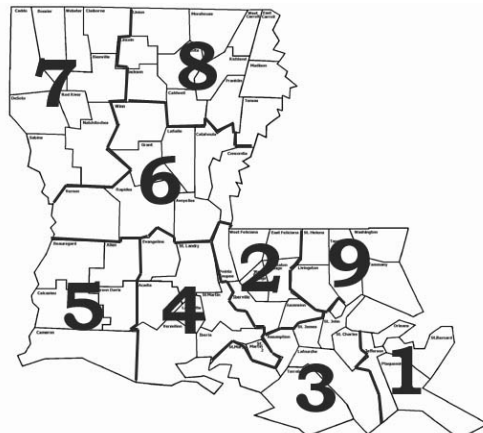
Table 2: Diseases of Low Frequency, January-December, 2018

Disease	Total to Date
Legionellosis	6
Lyme Disease	1
Malaria	3
Rabies, animal	0
Varicella	23

Table 3: Animal Rabies, March-April, 2018

Parish	No. Cases	Species
	0	

Figure: Department of Health Regional Map



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.

Acute Flaccid Paralysis	Fish/Shellfish Poisoning (domoic acid, neurotoxic shellfish poisoning, ciguatera, paralytic shellfish poisoning, scombroid)	Plague (<i>Yersinia pestis</i>)	Smallpox
Anthrax	Foodborne Infection	Poliomyelitis (paralytic & non-paralytic)	<i>Staphylococcus aureus</i> , Vancomycin Intermediate or Resistant (VISA/VRSA)
Avian or Novel Strain Influenza A (initial detection)	<i>Haemophilus influenzae</i> (invasive infection)	Q Fever (<i>Coxiella burnetii</i>)	Staphylococcal Enterotoxin B (SEB) Pulmonary Poisoning
Botulism	Influenza-associated Mortality	Rabies (animal and human)	Tularemia (<i>Francisella tularensis</i>)
Brucellosis	Measles (Rubeola imported or indigenous)	Ricin Poisoning	Viral Hemorrhagic Fever (Ebola, Lassa, Marburg, Crimean Congo, etc.)
Cholera	Neisseria meningitidis (invasive infection)	Rubella (congenital syndrome)	Yellow Fever
<i>Clostridium perfringens</i> (foodborne infection)	Outbreaks of Any Infectious Disease	Rubella (German Measles)	
Diphtheria	Pertussis	Severe Acute Respiratory Syndrome-associated Coronavirus (SARS-CoV)	

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.

Amoeba (free living infection: <i>Acanthamoeba</i> , <i>Naegleria</i> , <i>Balamuthia</i> , others)	Chagas Disease	Hepatitis B (perinatal infection)	Mumps
Anaplasmosis	Chancroid	Hepatitis E	Salmonellosis
Arthropod-Borne Viral Infections (West Nile, Dengue, St. Louis, California, Eastern Equine, Western Equine, Chikungunya, Usutu, and others)	<i>Escherichia coli</i> , Shiga-toxin producing (STEC), including <i>E. coli</i> O157:H7	Herpes (neonatal)	Shigellosis
Aseptic Meningitis	Granuloma Inguinale	Human Immunodeficiency Virus ² [(HIV), infection in pregnancy]	Syphilis ¹
Babesiosis	Hantavirus (infection or Pulmonary Syndrome)	Human Immunodeficiency Virus ² [(HIV), perinatal exposure]	Tetanus
	Hemolytic-Uremic Syndrome	Legionellosis	Tuberculosis ³ (due to <i>M. tuberculosis</i> , <i>M. bovis</i> , or <i>M. africanum</i>)
	Hepatitis A (acute illness)	Malaria	Typhoid Fever
	Hepatitis B (acute illness and carriage in pregnancy)		

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)	Giardiasis	Listeriosis	Staphylococcal Toxic Shock Syndrome
<i>Anaplasma Phagocytophilum</i>	Glanders (<i>Burkholderia mallei</i>)	Lyme Disease	Streptococcal Disease, Group A (invasive disease)
Blastomycosis	Gonorrhea ¹ (genital, oral, ophthalmic, pelvic inflammatory disease, rectal)	Lymphogranuloma Venereum ¹	Streptococcal Disease, Group B (invasive disease)
Campylobacteriosis	Hansen's Disease (leprosy)	Melioidosis (<i>Burkholderia pseudomallei</i>)	Streptococcal Toxic Shock Syndrome
Chlamydial infection ¹	Hepatitis C (acute illness)	Meningitis, Eosinophilic (including those due to <i>Angiostrongylus</i> infection)	<i>Streptococcus pneumoniae</i> , invasive disease
Coccidioidomycosis	Histoplasmosis	Nipah Virus Infection	Transmissible Spongiform Encephalopathies (Creutzfeldt-Jacob Disease & variants)
Cryptococcosis (<i>C. neoformans</i> and <i>C. gattii</i>)	Human Immunodeficiency Virus ² (HIV) (infection other than as in Class B)	Non-gonococcal Urethritis	Trichinosis
Cryptosporidiosis	Human T Lymphocyte Virus (HTLV I and II infection)	Ophthalmia neonatorum	Varicella (chickenpox)
Cyclosporiasis	Leptospirosis	Psittacosis	<i>Vibrio</i> Infections (other than cholera)
Ehrlichiosis (human granulocytic, human monocytic, <i>E. chaffeensis</i> and <i>E. ewingii</i>)		Spotted Fevers [<i>Rickettsia</i> species including Rocky Mountain Spotted Fever (RMSF)]	Yersiniosis
<i>Enterococcus</i> , Vancomycin Resistant [(VRE), invasive disease]		<i>Staphylococcus aureus</i> (MRSA), invasive infection	

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

Cancer	Heavy Metal (arsenic, cadmium, mercury) Exposure and/or Poisoning (all ages) ⁵	Phenylketonuria ⁴	Severe Traumatic Head Injury
Carbon Monoxide Exposure and/or Poisoning ⁵	Hemophilia ⁴	Pneumoconiosis (asbestosis, berylliosis, silicosis, byssinosis, etc.)	Severe Undernutrition (severe anemia, failure to thrive)
Complications of Abortion	Lead Exposure and/or Poisoning (all ages) ^{4,5}	Radiation Exposure, Over Normal Limits	Sickle Cell Disease ⁴ (newborns)
Congenital Hypothyroidism ⁴	Pesticide-Related Illness or Injury (all ages) ⁵	Reye's Syndrome	Spinal Cord Injury
Galactosemia ⁴			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), facsimile (504) 568-8290, telephone (504) 568-8313, or (800) 256-2748 for forms and instructions.

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

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

³Report 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

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

⁵Report to the Section of Environmental Epidemiology and Toxicology: www.seet.dhh.louisiana.gov or call (225) 342-7136 or (888) 293-7020

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.