Louisiana Morbidity Report

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July - August, 2015 **Volume 26, Number 4**

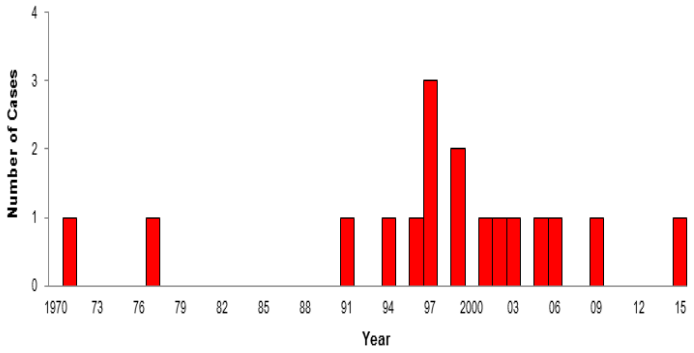
A Human Case of Eastern Equine Encephalitis: Louisiana, 2015

Angie Orellana, MPH; Christine Scott-Waldron, MSPH

In late spring, a male infant presented to a Louisiana hospital emergency department with acute onset of seizure-like activity and a 2-day history of fever. The patient, a Louisana resident, had traveled to Florida in the week prior to illness onset. Laboratory results raised concerns for meningitis, and sepsis. The infant was transferred to a nearby hospital for admittance to a pediatric intensive care unit (PICU) and was hospitalized for weeks before being discharged home. Confirmatory laboratory tests on the cerebral spinal fluid performed by the Centers for Disease Control and Prevention (CDC) came back positive for Eastern equine encephalitis virus (EEEV).

EEEV is an alphavirus belonging to the Togaviridae family and is transmitted to humans by the bite of an infected mosquito. The virus can cause disease in humans, horses, and some bird species. Eastern equine encephalitis (EEE) is a rare illness in humans. According to the CDC, an average of 8 cases are reported in the United States each year. Most cases occur in the eastern half of the United States, particularly the Atlantic and Gulf Coast states. Cases typically occur from late spring to early fall. Historically, human cases in Louisiana have been sporadic. The last human case of EEE in Louisiana was in 2009 (Figure).

Figure: Human Eastern Equine Encephalitis Cases
Louisiana,1960 - August 15, 2015



The majority of human EEEV infections are asymptomatic. When illness does result following EEEV infection, it can manifest as either systemic or encephalitic (EEE). The incubation period for EEEV disease is typically 4 to 10 days. Systemic infection produces mild, flu-like symptoms. Signs and symptoms in encephalitic infection are fever, headache, irritability, restlessness, drowsiness, anorexia, vomiting, diarrhea, cyanosis, convulsions, and coma.

Severe encephalitic disease is occasionally seen in children younger than 15 years of age but is more common in adults over the age of 50 years. In infants, the encephalitic form is characterized by abrupt onset; in older children and adults, encephalitis develops after a few days of systemic illness. Treatment is supportive and based on symptoms as there is no specific antiviral treatment available. Death occurs in approximately one-third of people who develop clinical encephalitis from EEEV. Among those who recover, many suffer permanent neurological damage.

In addition to illness in humans, EEEV can produce severe disease in horses. Since horses are outdoors and attract masses of biting mosquitoes, they are at high risk for contracting EEE when the virus is circulating in the mosquito population. However, there is a vaccine available to protect equines.

In Louisiana, the arbovirus surveillance program monitors cases of EEE in horses. Horse cases usually precede and exceed the number of human cases. As of August 15, 2015, there has been one EEE horse case reported this year.

There is no vaccine against EEEV for humans. Reducing exposure to mosquitoes is the best defense against infection with

(continued on page 6)

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Pesticide Surveillance Program: Louisiana, 2006-2013

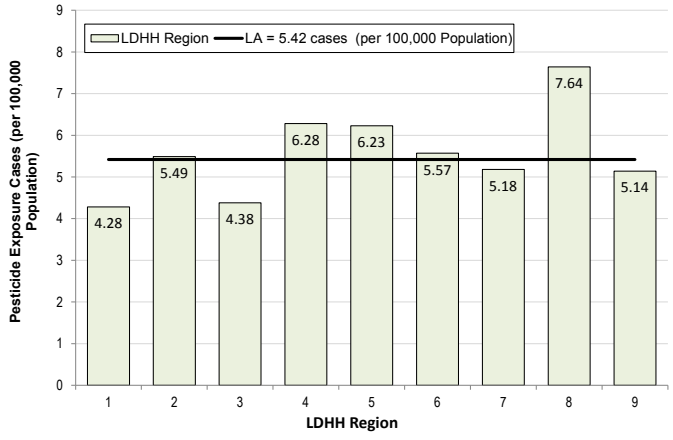
Kathleen Aubin, MSPH

The Louisiana Department of Health and Hospitals' Office of Public Health's Section of Environmental Epidemiology and Toxicology's Pesticide Surveillance Program investigates and tracks pesticide exposures occurring throughout the state. Reported cases of possible pesticide exposure are primarily received from the Louisiana Department of Agriculture and Forestry and the Louisiana Poison Center. During a pesticide exposure investigation, information is collected on or from the demographics of those exposed, the circumstance and route of exposure, the pesticide product, the type of application, the location of pesticide application, the medical signs and symptoms of exposure, biological and environmental monitoring (e.g., the results of cholinesterase and swab samples), the severity of health effects, and the utilization of health care. The database, data coding guides, and case classification and severity criteria used by the Program were developed by the Centers for Disease Control and Prevention's (CDC) National Institute for Occupational Safety and Health.

The Pesticide Surveillance Program recently released the *Summary of Pesticide Surveillance Data: Louisiana, 2006-2013* report, which provides descriptive statistics of aggregate pesticide exposure case data. Between 2006 and 2013, 1972 individuals (cases) reported health effects associated with pesticide exposure.

The median number of cases per year was 278, ranging from 136 (2011) to 421 (2007). The Program discontinued tracking non-occupational disinfectant exposures in 2011, which resulted in fewer cases in 2011-2013. During the time period evaluated, Madison, Richland, and Franklin Parishes, each in the northeastern part of the state (LDHH Region 8*), had the highest average annual rate of pesticide exposure cases; all parishes had at least one reported exposure (Figure 1).

Figure 1: Average Annual Exposure Case Rate by LDHH Region: Louisiana, 2006-2013

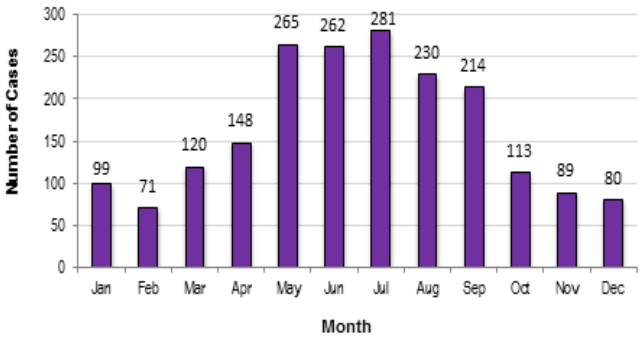


Overall there were more male cases (51%) than female cases (49%). Thirty-four percent of cases were between 20 and 39 years old. Three hundred and twenty-seven cases (17%) were less than 10 years old.

Two hundred and seventy-two cases (13.8%) were working when the reported pesticide exposure occurred. Eighty-nine percent of cases had mild health effects (low severity). There were no deaths. The most commonly reported symptom type was respiratory (28%), followed by gastrointestinal (18%).

Approximately two-thirds of the reported exposures occurred during spring or summer months (Figure 2).

Figure 2: Number of Cases by Month: Louisiana, 2006-2013



The circumstance of exposure for the majority of cases was targeted exposure (52%, 1034 cases). The target surface for 39% (772 cases) of all applications was the interior or exterior of a building.

The most common site of an exposure event was a single family home (83%, 1633 cases). Applications via manual placement accounted for 37% (729) of the cases. The most common pesticide types involved in reported incidents were insecticide (46.5%, 917 cases). Although the tracking of non-occupational disinfectant exposures was discontinued in 2011, the second most common pesticide type involved in reported incidents were disinfectants (32.9%, 649 cases).

To access the complete report, visit *http://dhh.louisiana.gov/assets/oph/Center-EH/envepi/Pest/Documents/Summary_Review_of_Pesticide_Surveillance_Data_6-8-2015.pdf.*

For more information on LDHH's Pesticide Surveillance Program, visit the website at *http://dhh.louisiana.gov/index.cfm/page/836*, call (888) 293-7020 (toll free), or send an email to *oph.seetweb@la.gov*.

* *Map of Regions on Page 7*

Louisiana Morbidity Report
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Public Health Laboratory Considerations - Potential Changes to Enteric Disease Testing Practices at Private Laboratories

National discussions have begun on the necessity of private laboratories sending isolates to state laboratories. In the future, these companies may contend that they are performing rapid tests only and that diagnoses require specific cultures which they have neither done nor been asked to perform.

However, the Louisiana Sanitary Code already requires isolates to be sent to the Office of Public Health Laboratory (Title 51, Part II, Section 113, Paragraph B*).

A reference culture is required to be sent to the Office of Public Health laboratory for the following microorganisms within 5 working days of the final identification of the microorganism:

i. *Bacillus anthracis* (confirmed or suspected);
ii. *Bordetella pertussis*;
iii. *Burkholderia mallei*;
iv. *Campylobacter* spp.;
v. Corynebacterium diphtheria;
vi. *E.Coli* O157H7 or *E.coli* shiga toxin producing;
vii. *Francisella* species;
viii *Listeria* spp.;
ix. *Mycobacterium tuberculosis*, *bovis* or *africanum*;
x. *Plesiomonas* spp.;
xi. *Salmonella*;
xii. *Shigella*;
xiii. *Vibrio* spp.;
xiv. *Yersinia enterolytica*; and
xv. *Yersinia pestis.*

For more information, please contact Stephen Martin at (225) 219-5235 or stephen.martin@la.gov.

** Online Publications of the Louisiana Administrative Code - http://doa.louisiana.gov/osr/lac/books.htm*

Outbreak and Communicable Disease Reporting Louisiana, 2015

The Infectious Disease Epidemiology Section, Office of Public Health, Department of Health and Hospitals (DHH) wishes to remind medical professionals that reporting of infectious diseases and outbreaks following the sanitary code is a useful measure for prevention. Following we have two examples of delays in reporting communicable diseases.

Viral Meningitis Outbreak Region X:

Viral meningitis is a reportable condition. Cases were diagnosed almost daily during the first 3 weeks of June, with a total of 31 cases before reporting started. Reporting was finally done at the urgings of an infectious disease physician and a community member.

Why report? Early reports of multiple cases would trigger an immediate investigation to ascertain that the cases are indeed viral meningitis and not some bacterial meningitis aborted by antibiotic treatment and to rule out any other bioterrorism agent that could cause a viral meningitis-like illness. Everyone agrees that early reporting is a key to preparedness.

The day after the report was made to DHH, one epidemiologist was sent to collect some "left-over" spinal fluid, which was sent to the Centers for Disease Control and Prevention with a definite diagnosis due in the next few days, proving that reporting leads to positive action. A complete investigation was immediately started by DHH, and information was disseminated to the anxious public.

***E. coli* O157 Outbreak:**

E. coli O157, also known as Shiga toxin-producing *E. coli* (STEC), causes bloody diarrhea. A small proportion of cases develop Hemolytic Uremic Syndrome (HUS), leading to renal failure and possible death.

Eight cases with onset from March 20 to March 23, 2015 occurred in a school. All cases sought medical care, went to emergency departments, and were hospitalized. Similar cases of bloody diarrhea among the classmates of the children seen were noted. The report was made by the mother of a school child who had a friend hospitalized and followed the school reports. A complete investigation was immediately started by DHH. Information was disseminated to the anxious public.

For more information on reportable diseases, please see page 8 of this document.

World Mosquito Day to Raise Awareness of the Importance of Mosquito Control

As part of World Mosquito Day, observed annually on August 20, the American Mosquito Control Association (AMCA) is working to increase awareness of the importance of mosquito control and encouraging the public to visit the AMCA Web site, www.mosquito.org, for important mosquito information. World Mosquito Day originated in 1897 with Dr. Ronald Ross of the Liverpool School of Tropical Medicine.

Currently, the Centers for Disease Control and Prevention estimates that 350 to 500 million cases of malaria occur worldwide each year, causing more than 1 million deaths, mostly of young children in sub-Saharan Africa and Asia. Exotic mosquito-borne diseases such as dengue fever and chikungunya are currently threatening to invade the American Caribbean coast and southwest states.

Flea-borne Illnesses in Louisiana, 1968-2015

Sarah Shrum, MPH Candidate

Fleas have public health importance for a number of reasons. Many species of fleas bite humans, resulting in annoying wounds that sometimes become infected. Some people have allergic reactions to flea bites or to the inhalation of or contact with flea products. In addition, fleas are also the vectors for several zoonotic diseases, including murine typhus and plague. Although these diseases are rare in Louisiana, increased awareness of these diseases among providers will result in better outcomes for patients and help ensure public safety.

Murine Typhus: A Potential Re-emerging Infection

Murine typhus, also known as endemic typhus, is a rickettsial disease caused by either *Rickettsia typhi* or *Rickettsia felis*. *R. felis* is a fairly recent discovery and has been implicated in murine typhus cases in California and Texas. Murine typhus used to be common across the United States. In 1943, Louisiana had 423 cases. Since the 1940s, incidence has dropped to less than 100 cases per year nationwide. Louisiana saw 2 cases in the 1960s, 2 cases in the 1970s, none in the 1980s, and 1 in the 1990s. However since 2010, Louisiana has begun receiving electronic lab reports with results that may be indicative of murine typhus. It is difficult to tell if there is an actual increase in cases or whether the increase is caused by laboratory testing which was previously unavailable.

Murine typhus is spread via the bites of fleas, typically the Oriental flea (*Xenopsylla cheopis*) or cat flea (*Ctenocephalides felis*). The Oriental flea's hosts are *Rattus rattus*, known as black or root rats, and *Rattus norvegicus*, known as Norway or wharf rats, although it has been found in many other rodent species. The cat flea inhabits domestic and feral cats, opossums, and domestic dogs. Opossums in particular are suspected to play a role in creating a peridomestic cycle, where opossums come into contact with people and their pets, thus spreading fleas. One study by Boostrum et al in 2002 found a large overlap between areas of endemic murine typhus transmission and seropositive opossum ranges.

Murine typhus symptoms typically begin 6 to 14 days (average: 12 days) after exposure. Generally, an acute, nonspecific fever develops, which may be followed by any combination of headache, rash, arthralgia, myalgia, chills, nausea, or cough. The fever normally lasts between 3 to 7 days; the rash typically develops on the trunk and spreads outwards to the limbs, excluding the palms, soles, and face. This rash pattern can help differentiate it from Rocky Mountain spotted fever, where the rash typically does extend to the palms, soles, and face. However, reported symptoms have been highly variable between patients.

The mortality rate for murine typhus in the United States with appropriate antibiotic therapy is around 1% and is estimated to be about 4% without appropriate antibiotics. Although complications are rare, there have been documented cases of resultant organ failure and neurological complications.

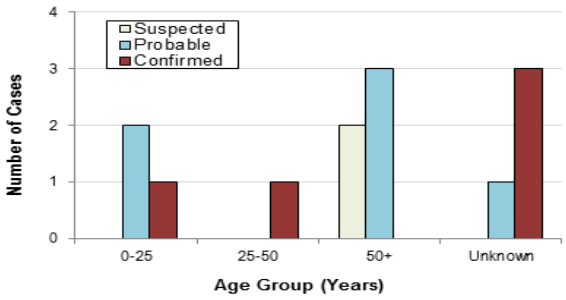
Murine typhus is common worldwide, and travelers may develop the disease after visiting developing countries, particularly coastal areas. If any rickettsial disease, including murine typhus, is suspected, a travel history should be obtained for the 2 weeks prior to symptom onset.

Laboratory confirmation is usually done by serology. Several well-validated serologic assays are available, but the standard at reference labs is indirect immuno-fluorescence assay (IFA). It is necessary to obtain 2 samples, 1 during the acute phase of the illness and 1 during the convalescent phase, which must show at least a 4-fold increase in antibody titers. Polymerase chain reaction (PCR) and isolation of the organism from tissues are other means of diagnosis.

In the United States, murine typhus has been reported in Southern California, Southern Texas, and Hawaii. Annual incidence in Texas can surpass 200 cases per year.

Since 2010, Louisiana has had 3 suspected cases, 5 probable cases, and no confirmed cases. The majority of cases (62.5%) were male. When catogorized by race, 37.5% of cases were black/African-American, 37.5% were white/Caucasian, and 25% were unknown/chose not to report a category. The majority of cases in Louisiana (75%) were aged 50 years or older (Figure 1).

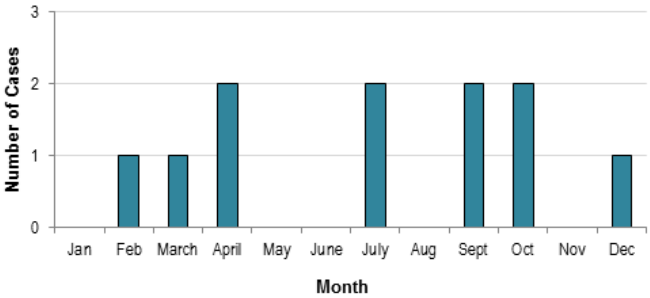
Figure 1: Confirmed, probable and suspected cases of murine typhus by age category: Louisiana, 1968-2015



There is great variation in terms of seasonality for murine typhus. Fleas prefer a hot climate. Therefore, murine typhus often appears seasonally but can also be present year-round when temperatures remain warm enough to support flea activity.

Louisiana's cases appear to be clustered between spring (late February-April) and fall (September-October), with a spike in mid-summer (Figure 2).

Figure 2: Monthly distribution of probable and suspected cases of murine typhus: Louisiana, 2010-2014



However, more data is needed to validate this trend, especially since it differs from the reported trends of climatically similar Texas, which reports cases most frequently in April through June.

Seventy-five percent of cases in Louisiana have been from Region 7*, with a particularly high concentration in Caddo Parish.

** Map of Regions on Page 7*

Plague

Plague, the famed agent of the Black Death, is another flea-borne disease of public health importance. It occurs worldwide, and outbreaks tend to be centered in parts of Asia, Africa, and South America. More than 95% of cases occur in Sub-Saharan Africa. Although it has not been reported in Louisiana since the late 1920s, plague is enzootic in other parts of the United States, occurring mainly in Western states like Colorado, Arizona, New Mexico, and California.

Plague is caused by the bacteria *Yersinia pestis* and maintained in various rat species, squirrels, prairie dogs, deer mice, and voles. Fleas, primarily the Oriental rat flea (*X. cheopis*), are the most common method of bacterial transmission between rats and humans, although plague can also be contracted through direct contact with infected rodents or, on rare occasion, by infectious droplets.

Initial symptoms are similar to other flea- and tick-borne diseases and may include fever, chills, malaise, myalgia, nausea, prostration, sore throat, and headache. Cases sometimes develop buboes, inflammatory swellings in the lymphatic gland nearest the inoculation site (Figure 3).

Figure 3: Plague patient with bubo; Photo courtesy of CDC

Bubonic plague is the most common form of the disease, but it can also manifest as pneumonic plague or septicemic plague.

Pneumonic plague includes symptoms of cough, fever, dyspnea, and hemoptysis and is caused by droplet inhalation. Pneumonic is the only kind of plague which can be transmitted person-to-person. Untreated morbidity is close to 90%. Cats are particularly susceptible to plague and are a common source of infection in humans, especially to their owners and veterinarians. Cats with pneumonic plague pose a significant plague risk due to possible aerosolization of bacteria.

Septicemic plague includes symptoms of acute respiratory distress, hypotension, skin lesions, and organ failure. Occasionally, symptoms of GI distress or mild lymphadenitis may be present, which can make an initial accurate diagnosis more difficult.

If left untreated, bubonic plague will progress to sepsis, acute respiratory distress, necrosis of distal extremities, hemodynamic instability and diffuse intravascular coagulation. Untreated bubonic plague is also often fatal. The incubation period is 2 to 8 days for bubonic plague, 1 to 6 days for septicemic plague, and 1 to 3 days for pneumonic plague.

Plague is usually confirmed by culture from clinical specimens. It can also be diagnosed through seroconversion, defined as a fourfold difference in antibody titer between 2 serum specimens obtained at least 2 weeks apart. Other laboratory methods include PCR, immunostaining, fluorescent antibody testing, or enzyme immunoassay in a patient who has not previously had plague.

Recommended treatment is antibiotic therapy; some draining of buboes may be necessary.

In Louisiana, there is little risk of an originating outbreak. Providers should consider plague if a patient has a travel history to western states or developing countries. Other risk factors include rodent or flea exposure, letting pets sleep in the patient's bed after roaming in endemic areas, veterinary profession, and outdoor occupation or hobbies. Plague is also recognized as a potential agent for bioterrorism. State public health officials should be notified immediately of any suspected cases of plague.

Cat Scratch Fever

Bartonella henselae is a bacteria which causes cat scratch disease (CSD) in humans. CSD is a type of Bartonella infection. It is suspected that cat fleas can spread the disease to humans, but this is not yet proven. Cat fleas do spread the bacteria from cat-to-cat, but the most common method of transmission to humans is through a cat scratch or bite. Up to 41% of healthy cats have shown to be carriers of the disease. Kittens, stray cats, and cats that have been in catfights or received blood transfusions are more likely to have the disease. In most cases, cats are asymptomatic.

CSD occurs worldwide and in the United States is most common in the fall and winter. Since CSD is not a reportable disease in Louisiana, there is not reliable information on how frequently it occurs.

Most cases of CSD do not require antibiotic treatment, but a small percentage of people may go on to develop complications. Attempting to diagnose CSD is difficult; serology can be cross-reactive between other forms of Bartonella infection. PCR is a reliable diagnostic technique when combined with a compatible epidemiological history.

Symptoms include a fever, painful lymph nodes (usually developing 1 to 3 weeks after exposure), and a pustule at the site of the bite or scratch (Figure 4).

Figure 4: Lesion of Cat Scratch Disease; Photo courtesy of: CDC/ Dr. Thomas F. Sellers; Emory University.

Although flea-borne diseases are not common in Louisiana, it is important for providers to be aware of the potential for re-emerging infections or of travelers who may have been exposed in other areas. For plague and murine typhus, symptoms can worsen if left untreated. It is therefore important to recognize cases early to ensure the best possible patient outcomes.

For references or more information, please contact Christine Scott-Waldron at (504) 568-8301 or christine.scott-waldron@la.gov.

A Human Case... continued from page 1)

EEEV and other mosquito-borne viruses. The Louisiana Department of Health and Hospitals provides several tips to prevent mosquito-borne illnesses.

Protecting Yourself

• If you will be outside, you should wear a mosquito repellent containing DEET. The American Academy of Pediatrics (AAP) recommends that repellents should contain no more than 30% DEET when used on children. Insect repellents also are not recommended for children younger than 2 months. CDC recommends that you always follow the recommendations appearing on the product label when using repellent.

• Apply repellent on exposed skin and clothing. Do not apply under your clothes or on broken skin.

• To apply repellent to your face, apply it first on to your hands and then rub it on your face.

• To protect a child, apply the repellent on to your own hands and then rub it on the child. Avoid placing repellent on the child's hands, as children frequently put their hands in their eyes and mouths.

• Wear long-sleeved shirts and pants when outdoors for long periods of time.

• Avoid perfumes and colognes when outdoors for extended periods of time.

• Make sure that your house has tight-fitting windows and doors and that all screens are free of holes.

Protecting Your Home

• Reduce the mosquito population by eliminating standing water around your home, which is where mosquitoes breed.

• Dispose of tin cans, ceramic pots and other unnecessary containers that have accumulated on your property. Turn over wheelbarrows, plastic wading pools, buckets, trash cans, children's toys, or anything that could collect water.

• Drill holes in the bottom of outdoor recycling containers. Drainage holes that are located on the container sides collect enough water for mosquitoes to breed.

• Check and clean roof gutters routinely. They are often overlooked, but can produce millions of mosquitoes each season.

• Aerate ornamental pools or stock them with fish. Water gardens can become major mosquito producers if they are allowed to stagnate.

• Clean and chlorinate swimming pools that are not being used. A swimming pool that is left untended by a family for a month can produce enough mosquitoes to result in neighborhood-wide complaints. Be aware that mosquitoes may even breed in the water that collects on swimming pool covers.

For more information, please contact Christine Scott-Waldron at (504) 568-8301 or *christine.scott-waldron@la.gov*.

Announcements

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

Annual Reports: Ehrlichiosis and Anaplasmosis; Encephalitis-Arthropod-borne; Encephalitis -EEE and LAC; Encephalitis - SLE; Encephalitis - WNV; Hansen's Disease; Hepatitis B; Influenza; Legionella; Listeria; Lyme; Measles; Pertussis; Rubella; Salmonella; Several Year Comparison 2013-2015; Salmonella; Shigella; Tularemia

Epidemiology Manual: Clostrium; Clostridium difficile; Cluster Investigation; Hepatitis Case Report Form; Hepatitis C; Meningococcal Menigitis; Tickborne Disease

Influenza: Prevention and Control of Infeluenza with Vaccines: Recommendations of the ACIP, US 2015-16 Influenza Season; Weekly/Monthly Report

Main Page Events: Notice to Clinicians and Health Departments: Continued Vigilance Urged for Cases of Acute Flaccid Melitis

School Resources: Cover Your Cough Poster

West Nile Virus: Weekly Report

SAVE THE DATE

NHSN/Emerging Infectious Disease Workshops

Metairie - October 22, 2015 Bossier City - October 28, 2015
Alexandria - October 29, 2015

These workshops are free to attend and open to the public. Registrations are necessary to assure seating availability. Go to *http://new.dhh.louisiana.gov/index.cfm/page/2226* for a registration form and more information.

Errata:

May-June, 2015 page 5- "Tuberculosis Rate Cut Nearly in Half from 2010 to 2014 in Louisiana" replaces "Tuberculosis Rate Cut by More Than Half from 2010 to 2014 in Louisiana."

First column, second paragraph - "Though many states experienced increases in their TB case rates, in 2014 Louisiana's TB case rate was 2.6 per 100,000 population, a 41% reduction from the 2010 case rate of 4.4 per 100,000." replaces "Though many states experienced increases in their TB case rates, in 2014 Louisiana's TB case rate was 2.6 per 100,000 population, a 59% reduction from the 2010 case rate of 4.4 per 100,000."

Infectious Disease Epidemiology Workshop

Winnsboro- September 17, 2015

Sponsored by the Department of Health and Hospitals' Office of Public Health's Infectious Disease Epidemiology Section. This is a 1-day workshops for non-Infectious Disease Rapid Response Team members. This workshop is targeted towards sanitarians, public health nurses, infection control professionals, disease surveillance specialists, teachers, epidemiologists, health care providers, and other public health care professionals interested in epidemiological principles and outbreak investigations.

This workshop is free to attend and open to the public. Registrations are necessary to assure seating availability. Both nurse and sanitarian education credits are available. Go to *dhh.louisiana.gov/index.cfm/page/1816* for a registration form and more information.

Table: Communicable Disease Surveillance, Incidence by Region and Time Period, May-June, 2015

DISEASE		HEALTH REGION 1	2	3	4	5	6	7	8	9	TIME PERIOD May-Jun 2015	May-Jun 2014	Jan-Dec Cum 2015	Jan-Dec Cum 2014	Jan-Dec % Chg*
Vaccine-preventable															
Hepatitis B	Cases	2	0	2	2	0	2	3	1	5	17	11	40	35	14.3
	Rate[1]	0.2	0	0.5	0.4	0.0	0.7	0.6	0.3	1.3	0.4	0.3	0.9	0.8	NA*
Measles		0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Mumps		0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Rubella		0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Pertussis		5	1	2	0	0	0	1	1	2	12	13	26	38	-31.6
Sexually-transmitted															
HIV/AIDS	Cases[2]	96	48	17	13	9	8	25	10	26	252	237	673	692	-2.7
	Rate[1]	11.5	7.2	4.2	2.2	3.1	2.6	4.6	2.8	4.8	5.6	5.2	14.8	15.3	NA*
Chlamydia	Cases[1,3]	738	339	197	331	111	123	370	303	182	2,694	4,853	8,288	12,220	-32.2
	Rate[1]	83.8	50.2	48.7	55.5	37.6	39.8	67.3	85.0	32.6	58.2	104.9	179.2	264.2	NA*
Gonorrhea	Cases[1,3]	264	134	72	137	36	49	141	127	47	1,007	1,521	2,770	3,631	-23.7
	Rate[1]	30.4	19.9	17.8	23.2	12.2	15.8	25.6	35.7	8.5	21.9	32.9	59.9	78.5	NA*
Syphilis (P&S)	Cases[1,3]	16	21	5	12	1	5	15	12	1	88	90	241	233	3.4
	Rate[1]	1.8	3.1	1.2	2.0	0.3	1.6	2.7	3.4	0.2	1.9	1.9	5.2	5.0	NA*
Enteric															
Campylobacter	Cases	3	7	4	0	7	10	6	2	8	47	51	107	108	NA*
Hepatitis A	Cases	1	0	0	0	0	0	0	0	0	1	0	2	4	NA*
	Rate[1]	0.1	0	0	0	0	0	0	0	0	0	0	0	0.1	NA*
Salmonella	Cases	38	35	33	53	13	13	21	29	37	272	230	470	401	17.2
	Rate[1]	3.7	6.2	8.8	10.3	4.9	4.3	4.2	8.3	9.6	6.3	5.3	10.9	9.3	NA*
Shigella	Cases	7	4	2	4	2	2	8	5	3	37	22	77	82	-6.1
	Rate[1]	0.7	0.7	0.5	0.8	0.7	0.7	1.6	1.4	0.8	0.9	0.5	1.8	1.9	NA*
Vibrio, cholera	Cases	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Vibrio, other	Cases	3	2	2	2	0	0	0	1	4	14	10	32	19	68.4
Other															
H. influenzae (other)		1	1	0	1	0	2	0	2	3	10	12	35	31	NA*
N. Meningitidis		0	0	0	1	0	0	0	1	0	2	1	4	4	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] = Prelminary data.

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

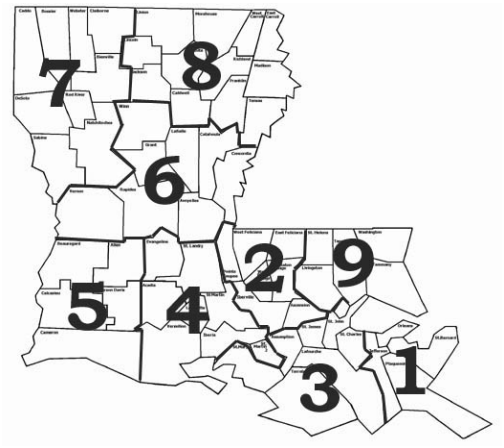
Table 2. Diseases of Low Frequency, January-December, 2015

Disease	Total to Date
Legionellosis	24
Lyme Disease	2
Malaria	2
Rabies, animal	4
Varicella	35

Table 3. Animal Rabies, May-June, 2015

Parish	No. Cases	Species
Bossier	1	Skunk
Calcasieu	1	Bat
Ouachita	1	Bat

Figure: Department of Health and Hospitals 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
- Anthrax
- Avian or novel strain Influenza A (initial detection)
- Botulism
- Brucellosis
- Cholera
- *Clostridium perfringens* (foodborne infection)
- Diphtheria
- Fish/Shellfish Poisoning (Domoic Acid, neurotoxic, Cigueatera, paralytic, Scombroid)
- Foodborne Infection
- *Haemophilus influenzae* (invasive disease)
- Influenza-associated Mortality
- Measles (Rubeola imported or indigenous)
- N*eisseria meningitidis* (invasive infection)
- Outbreaks of Any Infectious Disease
- Pertussis
- Plague (*Yersinia pestis*)
- Poliomyelitis (paralytic & non-paralytic)
- 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
- 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.

- Amoeba (free living infection: *Acanthamoeba, Naegleria, Balamuthia,* others)
- Anaplasmosis
- Arthropod-Borne Neuroinvasive Disease (West Nile, St, Louis, California, Eastern Equine, Western Equine, others)
- Aseptic Meningitis
- Babesiosis
- Chagas Disease
- Chancroid
- Dengue Fever
- *Escherichia coli*, Shig-toxin producing (STEC), including *E. coli* 0157:H7
- Granuloma Inguinale
- Hantavirus (infection or Pulmonary Syndrome)
- Hemolytic-Uremic Syndrome
- Hepatitis A (acute disease)
- Hepatitis B (acute illness and carriage in pregnancy)
- Hepatitis B (perinatal infection)
- Hepatitis E
- Herpes (neonatal)
- Human Immunodeficiency Virus[2] [(HIV), infection in pregnancy]
- Human Immunodeficiency Virus[2] [(HIV), perinatal exposure]
- Legionellosis (acute disease)
- Malaria
- Mumps
- Salmonellosis
- Shigellosis
- Syphilis[1]
- Tetanus
- Tuberculosis[3] (*M. tuberculosis, M. bovis, M. africanum*)
- Typhoid Fever

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
- Blastomycosis
- Campylobacteriosis
- Chlamydial infection[1]
- Coccidioidomycosis
- Cryptococcosis
- Cryptosporidiosis
- Cyclosporiasis
- Ehrlichiosis (human granulocytic and monocytic, *Ehrlichia chaffeensis)*
- Enterococcus, Vancomycin Resistant [(VRE), invasive disease]
- Giardia
- Glanders
- Gonorrhea[1] (genital, oral, ophthalmic, pelvic inflammatory disease, rectal)
- Hansen's Disease (leprosy)
- Hepatitis B (carriage, other than in pregnancy)
- Hepatitis C (acute illness)
- Hepatitis C (past or present infection)
- Human Immunodeficiency Virus[2] (HIV (infection other than as in Class B)
- Human T Lymphocyte Virus (HTLV I and II infection)
- Leptospiriosis
- Listeria
- Lyme Disease
- Lymphogranuloma Venereum[1]
- Meliodosis (*Burkholderia pseudomallei)*
- Meningitis, Eosinophilic
- Nipah Virus Infection
- 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)
- Vibrio Infections (other than cholera)
- 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 (children)[4] (adults)[5]
- Pesticide-Related Illness or Injury (all ages)[5]
- Phenylketonuria[4]
- 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 1-800-256-2748 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 HIV/AIDS Program: Visit www.hiv.dhh.louisiana.gov or call 504-568-7474 for regional contact information.

[3]Report on CDC72.5 (f.5.2431) card

[4]Report to the Louisiana Genetic Diseases Program and Louisiana Childhood Lead Poisoning Prevention Programs: www.genetics.dhh.louisiana.gov or call (504) 568-8254.

[5]Report to the Section of Environmental Epidemiology and Toxicology: www.seet.dhh.louisiana.gov or call 1-888-293-7020