Louisiana Morbidity Report

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Cutaneous Leishmaniasis - An Emerging Imported Infection Louisiana, 2015

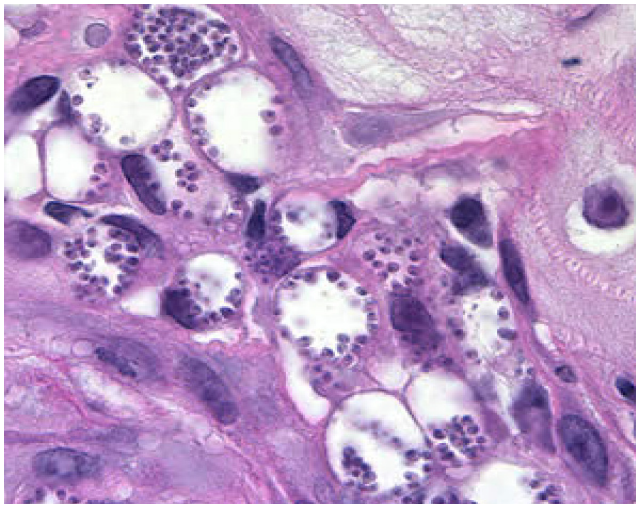
Benjamin Munley, MPH; Angie Orellana, MPH; Christine Scott-Waldron, MSPH

In the summer of 2015, a total of 3 cases of cutaneous leishmaniasis, all male, were reported to the Department of Health and Hospitals' (DHH) Louisiana Office of Public Health (OPH). The first 2 cases to be reported were newly acquired, a 17-year-old male and his father, a 49-year-old male. Both had traveled to Costa Rica approximately 2 months prior to their initial medical consultation, and although they noticed bug bites after the trip, they did not notice any flies while traveling. It is not known where transmission of the parasite occurred while in Costa Rica, but both cases spent time in the mountainous rainforests as well as coastal beach locations.

Both patients presented with a single indolent skin ulcer 1 to 2 cm in diameter and no other symptoms. While a previous biopsy of the 17-year-old's skin ulcer diagnosed leishmaniasis, the species had not been identified. In order to determine the most efficacious treatment, a consulting physician performed a biopsy on both patients' ulcers in order to send samples to the Centers for Disease Control and Prevention (CDC) for confirmation and speciation. Following molecular testing, including PCR and DNA sequencing, a leishmanial diagnosis was confirmed, and the species was found to be *L. panamensis*, one of the 4 main species associated with progression to metastasized mucosal leishmaniasis in some instances.

The third case to be reported in the summer of 2015 was from an Australian resident with an extensive travel history prior to developing the skin lesion, although exact travel history could not be confirmed. The case presented with a non-healing skin ulcer less than 1 cm in diameter on his right leg. The ulcer had been present for 18 months and had not previously been treated. A skin biopsy with suppurative granulomatous infiltrates with parasitized histiocytes filled with amastigotes was submitted to the CDC for diagnosis confirmation and speciation (Figure 1).

Figure: Amastigotes of *Leishmania* sp. in a Biopsy Specimen From a Skin Lesion - CDC Photo Library.



As in the 2 cases presented previously, the species was found to be *L. panamensis*.

Prior to these 3 cases in 2015, the only confirmed case of leishmaniasis in Louisiana was reported in the spring of 2012. The case was a 27-year-old male who presented with a skin lesion on his left temple. Final diagnosis of cutaneous leishmaniasis was confirmed following the results of a punch biopsy of the patient's skin lesion.

Parasites belonging to the genus *Leishmania* are obligate

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Necrotizing Fasciitis – It Was Not theTap Water: Louisiana, 2015

Erin Delaune, MPH

In early autumn, the Department of Health and Hospitals' Office of Public Health's Infectious Disease Epidemiology Section received a call from a concerned resident about a family member who had recently died of necrotizing fasciitis. The patient had a remote history of cellulitis and a blister on her upper thigh and had been soaking frequently in a hot tub-style bath tub.

At the end of the summer, the 36-year-old female presented to the hospital with leg swelling, cellulitis, and abscess. The patient had a medical history of hypertension, diabetes, and hyperlipidemia and was transferred to a larger facility due to concerns of necrotizing fasciitis, acute renal failure, and sepsis. Symptoms began about 1 week prior when she noticed cellulitis near her left groin area with a blood blister. She was treated by her primary care physician with clindamycin. The swelling and redness continued to worsen over the next couple of days. She also experienced pain, fever, nausea, vomiting, and poor appetite. A CT scan was performed on admission to the hospital and revealed gas in the tissue surrounding the lesions with extension to the inguinal area and left flank. The patient underwent multiple debridements for her necrotizing fasciitis. The patient's condition worsened while admitted. In addition to the necrotizing fasciitis and sepsis, she developed respiratory failure and acute renal failure. Less than 2 weeks later, the patient died.

There was concern regarding the tap water since the patient frequently soaked in the bathroom hot tub prior to death, leading to inquiries as to whether something in the tap water caused the necrotizing fasciitis and subsequent death. Cultures from the cellulitis and the wound grew *Streptococcus viridans*, Coagulase-negative *Staphylococcus*, Gram-positive rods suggestive of *Corynebacterium,* and mixed anaerobic bacteria. No growth was present in blood cultures. Due to the type of bacteria isolated from the wound and cellulitis, the patient's infection did not appear to be caused by the tap water in the bathroom hot tub.

Streptococcus viridans encompasses a group of alpha hemolytic Streptococci which has been isolated from the mouth and intestines of humans. It is a common cause of gingivitis. Coagulase-negative *Staphylococc*i are common inhabitants of the skin and mucous membranes. The *Corynebacterium* genus includes both pathogenic and nonpathogenic organisms that are widely distributed in nature. Species include *C. acnes,* found in acne lesions, and *C. haemolyticum,* found in pharyngitis and skin ulcers.

What is necrotizing fasciitis?

Necrotizing fasciitis is a rare infection of the deep layers of the skin and subcutaneous tissues that easily spreads across the facial plane within the subcutaneous tissue.

Symptoms include localized pain with or without swelling, tenderness, or erythema. Some people experience nausea, vomiting, diarrhea, aches, chills, or fever.

What causes necrotizing fasciitis?

Many bacteria can cause necrotizing fasciitis, including Group A S*treptococcus, Staphylococcus aureus, Clostridium perfringens, Bacteriodes fragilis, Aeromonas hydrophila, Vibrio vulnificus,* and more. The majority of necrotizing fasciitis cases are caused by an infection with more than one organism. *V. vulnificus* and *Aeromonas* represent less than 1% of all necrotizing fasciitis cases.

For more information, please visit http://new.dhh.louisiana.gov/index.cfm/page/531 or contact Erin Delaune at (504) 568-8316 or erin.delaune@la.gov.

Announcements

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

Annual Reports: Amebiasis; Botulism; *Campylobacter*; Cryptococcosis; Hepatitis C; Several Year Comparison 2013-2015

Epidemiology Manual: Acute Flaccid Myelitis (AFM) Public Information; Contaminated Currency and Coin; Lyme Disease Guidelines (AHRQ); Outbreak/Cluster Investigation; Respiratory Syncytial Virus (RSV); RSV Summary

HAI: Fall 2015 Newsletter; NHSN/Emerging Infectious Disease Workshop Videos

Influenza: Weekly/Monthly Report

West Nile Virus: Weekly Report

International Infection Prevention Week
October 18th-24th, 2015

The Association for Professionals in Infection Control and Epidemiology (APIC) is promoting hand hygiene as part of their *Spread the Word, Not the Germs* initiative. The focus for this week is on hand hygiene. Some examples of hospital initiatives include: asking patients and their families to practice hand hygiene, inquire if health care providers have washed their hands, and asking health care professionals to respond appropriately when patients ask questions on practicing hand hygiene.

For more information, visit http://www.apic.org.

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I Think My Dog Has The Flu

Gary Balsamo, DVM, MPH&TM

One of the comments often heard from veterinary clients is, "I think my dog has the flu." During the previous century, veterinarians could quite confidently disregard that statement. Upper respiratory infections in canines were then known to be caused by viruses other than influenza and by common bacteria, most often *Bordetella bronchiseptica*, a bacteria long recognized as the most common cause of a condition described as "kennel cough."

However, influenza A is now known to infect canines with 2 types of virus presently circulating in the United States, H3N8 virus and H3N2. In 2004, racing dogs in Florida were observed with a respiratory disease of unknown origin. The etiology of the illness was later determined to be an H3N8 influenza virus that had been known to affect horses for over 40 years. The virus acquired the ability to infect canines and to be easily transmitted from dog-to-dog, especially in kennels and animal shelters. This H3N8 virus is now considered to be specific to dogs, and after initially causing outbreaks at dog racing tracks in 11 states, the virus has now been identified in dogs in 30 states and the District of Columbia. Today, H3N8 canine influenza is considered endemic in areas of Colorado, Florida, New York, and Pennsylvania.

Thought to be an avian influenza virus that adapted to infect dogs, the H3N2 canine influenza virus was first discovered to infect dogs in Korea. This virus has a different genetic make-up than the human seasonal H3N2 influenza virus. Detected in the Chicago area in the spring of 2015, canine H3N2 has also been found to be circulating in China and Thailand. The exact method of spread of the virus from Asia to the United States remains unknown. The H3N2 canine influenza is now known to have infected dogs in other Midwestern states and has recently been identified in Louisiana's neighboring states.

Other influenza virus types have been shown to infect dogs, but transmission does not occur readily. H5N1 avian influenza is known to have caused the death of a dog in Thailand that consumed an infected duck. The H1N1 human pandemic influenza that now circulates as a seasonal flu in the United States has also been discovered in a few dogs.

Originally H3N8 canine influenza was known to cause a relatively high incidence of severe respiratory disease and death in racing greyhounds, however the virus now does not appear to cause as severe a condition in pet breeds. It is believed that most dogs having contact with H3N8 or H3N2 canine influenza will become infected, but that approximately 20% to 25% remain asymptomatic. Most of the 80% that do become ill exhibit a fairly mild illness characterized by cough, rhinorrhea, and fever, although the disease in a small percentage of dogs will progress to pneumonia. Death from the disease is rare.

The incubation period in exposed animals is approximately 2 to 4 days; infections occur most commonly in kennels or animal shelters. Canine influenza is transmitted through direct contact with respiratory secretions and through fomite transmission. Dogs showing respiratory signs should be kept away from other canines.

Dogs with respiratory signs should be examined by a veterinarian. PCR, serology, and viral culture are methods of diagnosis available to veterinarians to detect the disease. The ELISA test for influenza A and B used in human medicine is often used for screening in dog cases. Treatment is supportive and involves the use of antibiotics to treat secondary bacterial infections, hydration, and non-steroidal anti-inflammatory drugs.

There are presently two vaccines against H3N8 canine influenza available commercially. There are no commercially available vaccines against H3N2 canine influenza, and it is unknown whether vaccination for H3N8 provides any protection against infection with H3N2. The vaccine is recommended primarily in animals that are boarding or are anticipated to board in kennels or shelters. Dog owners should discuss the necessity of vaccination with their veterinarian.

Of course the primary concern of public health is the potential of these viruses to infect people. At present the Centers for Disease Control and Prevention considers transmission to people to be highly unlikely. To date, no human cases have occurred. In addition, these viruses are not thought to be easily transmitted to other pet species. However, the ability of influenza viruses to change genetically is always of concern. If the virus were to acquire genes making it infectious to people and easily transmissible person-to-person, the pandemic potential of a novel influenza to which very little immunity exists cannot be discounted, however unlikely that may be.

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

Louisiana Fact

Native American Medicine

Since the early 1700s, the medicinal use of herbs by Louisiana Native Americans was studied by the French.

Pierre D'Artaguette, an officer in the French army, wrote in the early 1700s of the use of the seed of sumac as a cure for dysentery and its root as a remedy for venereal disease.

Antoine-Simon Le Page du Pratz, in his *Histoire de la Louisiane* published in 1758, wrote that, for dysentery or diarrhea, the Native Americans in the area made bread from the pulp of ripe persimmons and sold it to the French colonies. He also specifically claimed that sweet gum could cure wounds within 2 days and could also be used for ulcers, disease of the lungs, colic/internal ills, and removal of obstructions.

Charles Gayarré, a Louisiana historian, wrote in the 1800s about the hundreds of plants sent to France for study that had been used medicinally by the Native Americans. In one note he mentioned that the root of cottonwood was used for its astringent properties and that the acacia was used as a pain reliever during toothaches.

In 1909, writer David Bushnell described 25 plants and their use and treatments by the Choctaw of Bayou Lacomb, St. Tammany Parish, for the Bureau of American Ethnology.

David I Bushnell, Jr., Smithsonian Institution Bureau of American Ethnology Bulletin 48; 23-25.
Antoine-Simon Le Page du Pratz, Histoire de la Louisiane Vol. II; 18-19 & 55-56.
Rudolph Matas, edited by John Duffy, The History of Medicine in Louisiana Vol. I; 42-44.

Statewide Heat Surveillance Using Emergency Department Syndromic Surveillance Data: Louisiana, 2013-2015

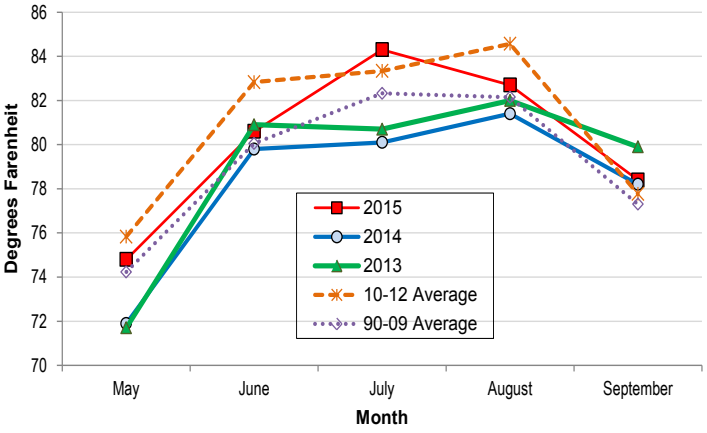
Jenna Iberg Johnson, MSPH

The Department of Health and Hospitals' Infectious Disease Epidemiology Section (IDEpi) conducts yearly enhanced syndromic surveillance of emergency department (ED) visits related to extreme outdoor heat during the months of May through September using Louisiana Early Event Detection System (LEEDS), IDEpi's syndromic surveillance system. The following summarizes the results of statewide heat surveillance for the 2013 to 2015 period.

Historical monthly average temperatures for Louisiana for May through September are based on data from the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information (NCEI). The monthly averages for 2013, 2014, and 2015 are shown along with the 1990 to 2009 and 2010 to 2012 monthly averages. Average temperatures in 2013 and 2014 were below the average temperatures for the 2010 to 2012 period and fairly similar to the average temperatures from 1990 to 2009.

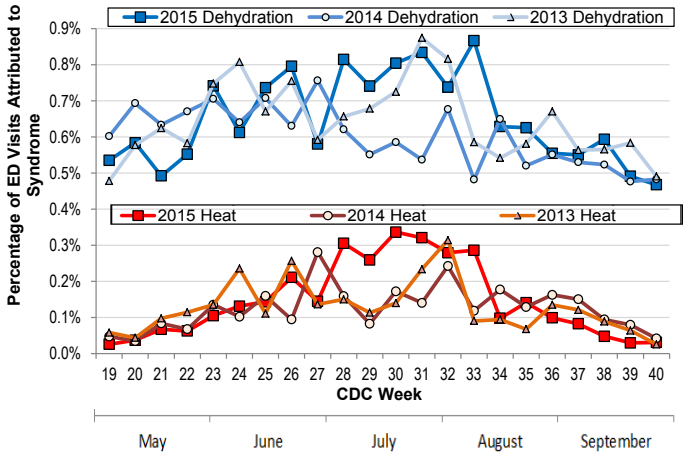
The average temperature in July of 2015 was above historical average temperatures; however, in May, June, August, and September of 2015, temperatures were similar to historical temperatures (Figure 1).

Figure 1: Monthly Average Temperatures - Louisiana, May-September,1990-2015



LEEDS currently collects electronic ED data from 62 hospitals throughout the state. ED visits are processed based on chief complaint, admit reason and diagnosis data that identify those visits as being related to defined syndromes. For heat surveillance, IDEpi monitored the syndromes of heat (heat exhaustion, overheating, etc.) and dehydration. The period of analysis covered the Centers for Disease Control and Prevention (CDC) weeks 18 through 39 (mid-April through mid-September). Heat-related and dehydration-related visits accounted for small percentages of ED visits over the analysis period (Figure 2).

Figure 2: Weekly ED Visits Related to Heat and Dehydration – Louisiana, April-September, 2013-2015



The average percentage of ED visits attributed to heat over the CDC week 19 to 40 period in 2015 was 0.15%, which was significantly higher than the period averages for 2014 (0.13%) and 2013 (0.13%) ($p<0.05$).

In 2013, visits related to heat peaked twice in June during week 23 at 0.24% and week 25 at 0.26%, decreased during July, and peaked again during week 31 in early August at 0.31%.

Visits related to heat in 2014 peaked first during week 26 in late June at 0.28%, decreased into July, and then peaked again in week 31 in early August at 0.24%.

In 2015, visits related to heat were the highest during July and into August, peaking during week 29 in mid-July at 0.34%.

Weekly average temperatures were not available to compare with the weekly heat-related ED visit trends. Monthly average percentages of heat-related visits were calculated and compared with the monthly average temperatures for each year. The correlation coefficients for monthly heat-related visits and monthly temperatures were 0.78 in 2013, 0.96 in 2014, and 0.93 in 2015. Presumably, if daily or weekly average temperatures were available, they would also be closely correlated with daily or weekly percentage of ED visits related to heat.

The average percentage of ED visits attributed to dehydration over the CDC week 19 to 40 period in 2015 was 0.65%, which was significantly higher than the period average for 2014 (0.59%) ($p<0.05$), but not significantly higher than the period average for 2013 (0.64%).

In 2013, visits related to dehydration peaked multiple times, with the highest peak occurring in late July during week 30 at 0.87%.

Visits related to dehydration in 2014 peaked in late June during week 26 at 0.76% and then decreased during the rest of the summer.

In 2015, visits related to dehydration were relatively high in

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Statewide Heat ... continued from page 4)

June and July and peaked in early August during week 32 at 0.87%.

The correlation coefficients for monthly dehydration-related visits and monthly average temperatures were 0.77 in 2013, -0.34 in 2014, and 0.90 in 2015. Daily or weekly average temperatures may be better correlated with daily or weekly percentage of ED visits related to dehydration.

IDEpi's analysis of ED visits related to heat and dehydration reveals that these visits for heat and dehydration are likely to increase as extreme outdoor heat occurs. Utilizing LEEDS for heat surveillance provides valuable situational awareness to indicate if and when the utilization of public health resources and messaging may be beneficial to prevent additional increases in ED visits related to heat.

For more information, please visit *www.dhh.la.gov/leeds* or contact Jenna Iberg Johnson at (504) 568-8312 or *jenna.iberg-johnson@la.gov.*

NHSN Data Validation Louisiana, 2015

Erica Washington, MPH

The Department of Health and Hospitals' Healthcare-Associated Infections (HAI) Prevention Program completed a validation project in the spring of 2015. The purpose of the project was to assess the validity of central line-associated bloodstream infections numerator data (CLABSI) that were reported to the Centers for Disease Control and Prevention National Healthcare Safety Network (NHSN) in 2013. Seven hospitals in 4 of the 9 public health regions participated in the study. Sensitivity and specificity of CLABSI identification was compared between documentation of the hospital and review by the HAI prevention coordinator. Overall sensitivity for participating facilities was approximately 90%. This was a notable improvement from the 2012 CLABSI data validation project held in the spring of 2014, which resulted in 75% validity in 9 participating hospitals for CLABSI numerator data.

The validation project will be ongoing and expanded to include additional measures, such as CLABSI denominator data as well as catheter-associated urinary tract infection numerator and denominator data. Participation is voluntary, confidential, and equips participating facilities with additional infection control and surveillance competencies ahead of validation studies conducted by Centers for Medicare and Medicaid Services.

To participate in the validation project, contact Erica Washington at (504) 568-8319 or *erica.washington@la.gov.* For more information visit *http://www.dhh.state.la.us/index.cfm/page/824*.

Influenza Vaccination Louisiana, 2015

Frank Welch, MD, MSPH

It's about to be flu season again! National Influenza Vaccination Week is December 6-12, 2015.

According to the Centers for Disease Control and Prevention (CDC), influenza causes approximately 200 000 hospitalizations and 36 000 deaths in the United States each year.

Influenza is easily spread from person-to-person through coughing and sneezing, and those infected can be contagious before any signs of the flu are even present. Young children, the elderly, and those with chronic health problems are at particular risk for severe complications from the flu.

As of the end of October, only about 26% of Louisiana residents received their flu vaccinations, compared to a national rate of 28%. This reflects a consistent trend in Louisiana, as only about 44% of our populations usually gets a flu vaccine by the end of flu season, versus the US average of 47%.

Encouraging influenza vaccination for everyone older than 6 months of age is one method of keeping not only families, but also workplaces safe. Flu vaccinations can offer immediate protection, but it takes about 2 weeks for a vaccination to have its full effect. Encouraging influenza vaccination all through the winter months can help improve Louisiana's rates and reduce disease. Increasing the State's vaccination rate could also significantly reduce the rate of influenza morbidity in local communities, especially among those most vulnerable.

For more information about influenza disease and vaccination visit *http://www.cdc.gov/flu/index.htm* or *www.fighttheflula.com*.

IDEpi Question/Answer Corner

Should workers exposed to sewage and waste be immunized against hepatitis A?

There is no recommendation for the hepatitis A vaccine (HAV) for people working with sewage for the reasons listed below.

1- The risk is extremely small. The reported rate of HAV is only 2 per 100 000 population. Assuming that only 5% are reported, one could estimate that there is at most 40 cases per 100 000 population per year. Since the virus remains in the stools for only 2 weeks, the number of excretors per 100 000 population is 40 / 26 (26 two-week periods per year) = 1.5 excretor /100 000 population.

2 - The workers should take precautions to avoid contact with sewage.

3 - If a worker were to have an accident and come in contact with a large amount of sewage (example falling in), then it would not be too late to start post-exposure immunization.

For more information on hepatitis visit *http://new.dhh.louisiana.gov/index.cfm/page/1009*.

Leishmaniasis ... continued from page 1)

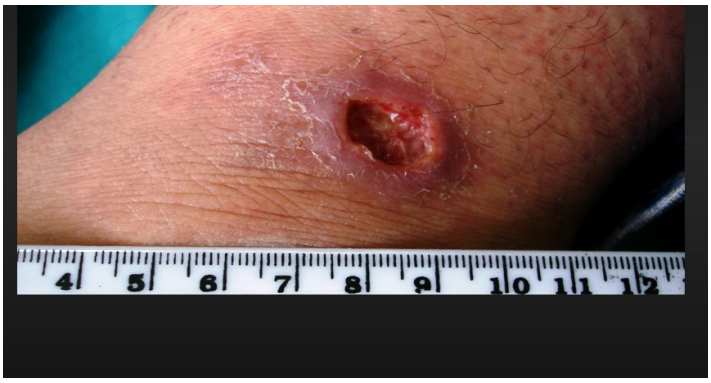
intracellular parasites of mononuclear phagocytes. The different species are morphologically indistinguishable, but they can be differentiated by molecular methods, namely PCR and DNA sequencing. In the United States, the CDC provides reference diagnostic services for leishmaniasis.

The natural reservoir varies from region to region, but consists of wild rodents, sloths, marsupials, domestic dogs, and even humans. Leishmaniasis can be either a zoonotic disease where infection is transmitted from animals to humans by the bite of an infected sand fly (phlebotomines), or an anthroponotic disease, where transference is human to sand fly to human. The sand flies that transmit the parasite are only about one-third the size of typical mosquitoes or even smaller. The sand fly vectors generally are the most active during twilight, evening, and night-time hours (from dusk to dawn). As with mosquitoes, only the female sand flies infect humans when they take a blood meal and inject the promastigote stage of the protozoa into the blood stream. The protozoa develop and multiply in macrophage cells until they are released to infect other tissues and cells.

Within the Western Hemisphere, Leishmaniasis is endemic in Mexico, Central America, and the vast majority of South American countries. Of the 22 species of leishmania known to infect humans, 15 are specific to these New World regions. Of these, the main species in the New World make up the *L. mexicana* complex (*L. mexicana, L. amazonensis, and L. venezuelensis*) and the subgenus *Viannia* or *L. braziliensis* complex (*L. [V.] braziliensis, L. [V.] guyanensis,L. [V.] panamensis*, and *L. [V.] peruviana*).

Between 2001 and 2013, 743 970 cases of cutaneous and mucosal leishmaniasis were recorded in Central and South American countries (Figure 2).

Figure 2: Cutaneous Legion - Courtesy of Abanima, at Arabic Wikipedia



In 2013, 47 492 new cases were recorded, with over three-quarters occurring in Brazil and the Andean subregion. From 2010 to 2013, there was a significant decrease (19.2%) in the number of cases observed in a few Central and South American countries; however, this was coupled with a concurrent rise in the number of cases observed in several other countries, namely Mexico, Costa Rica, Honduras, El Salvador, and Bolivia. As the number of travelers and immigrants from Latin American countries increases, one can expect to see a subsequent rise in the number of cases of leishmaniasis in the United States.

Leishmaniasis in the Old World (the Eastern Hemisphere) is endemic in several regions; most relevant to the United States are the Middle Eastern countries of Iran, Iraq, and Afghanistan, due to the recent military campaigns in both countries. From June 2001 to 2013, approximately 3 100 cases of cutaneous leishmaniasis have been confirmed in US military personnel, with an additional 50 to 100 new cases having occurred in 2014.

Of the 3 possible clinical manifestations of leishmaniasis, the most common form is cutaneous leishmaniasis (Jericho boil, chiclero ulcer, tropical sore or oriental sore). In general, cutaneous leishmaniasis causes skin lesions, which can persist for months and sometimes years, leaving lifelong scars and serious disability. The skin lesions usually develop within several weeks or months after the exposure, but occasionally first appear years later (such as in the context of trauma or immunosuppression). The lesions typically evolve from papules, to nodular plaques and to ulcerative lesions with a raised border and central depression, which can be covered by scab or crust; some lesions persist as nodules. The lesions usually are painless but can also be painful, especially if ulcerative lesions become infected with bacteria or if the lesions are near a joint. Some patients do not require treatment as the lesions(s) may heal spontaneously over the course of weeks or months. Depending on the species of *Leishmania* involved, mucosal leishmaniasis (espundia), a metastatic sequela of New World cutaneous infection, may develop in some cases. Cutaneous leishmaniasis should always be suspected in travelers or immigrants coming from endemic regions in the Americas, the Mediterranean basin, the Middle East, and Central Asia when any lesion has failed to heal, especially in individuals who worked or were lodged in or near forested areas.

It is important to note that treatment efficacy varies greatly between geographical regions and *Leishmania* species, thereby making location of transmission and speciation of the parasite of great importance when prescribing a course of treatment. Effective treatment of individuals can help control the spread of the parasite in areas of anthroponotic disease.

No vaccines or drugs to prevent infection are available. The best way for travelers to prevent infection is to protect themselves from sand fly bites. Personal protective measures include minimizing nocturnal outdoor activities, wearing protective clothing, and applying insect repellent to exposed skin. Prevention measures for leishmaniasis are generally aimed at controlling the population of sand flies through insecticide use, but can also include destroying known animal reservoirs and their dwellings.

For more information, please contact Benjamin Munley at (504) 568-8321 or benjamin.munley@la.gov.

Table: Communicable Disease Surveillance, Incidence by Region and Time Period, July-August, 2015

DISEASE		HEALTH REGION 1	2	3	4	5	6	7	8	9	TIME PERIOD Jul-Aug 2015	Jul-Aug 2014	Jan-Dec Cum 2015	Jan-Dec Cum 2014	Jan-Dec % Chg*
Vaccine-preventable															
Hepatitis B	Cases	0	1	0	0	0	0	0	2	9	12	20	53	57	NA*
	Rate[1]	0	0.2	0	0	0	0	0	0.6	2.3	0.3	0.5	1.2	1.3	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		1	0	0	2	0	0	0	1	1	5	50	31	126	-75.4
Sexually-transmitted															
HIV/AIDS	Cases[2]	73	45	19	12	8	15	17	5	9	203	215	867	886	-2.1
	Rate[1]	8.7	6.8	4.7	2.1	2.7	4.8	3.1	1.4	1.7	4.5	4.7	19.1	19.5	NA*
Chlamydia	Cases[1,3]	2016	1177	572	984	293	524	922	792	712	7,992	5,066	17,630	17,269	2.1
	Rate[1]	229.0	174.3	141.3	165.1	99.3	169.6	167.8	222.2	127.3	172.8	109.3	381.2	373.3	NA*
Gonorrhea	Cases[1,3]	583	371	129	259	77	99	244	280	177	2,219	1,626	5,394	5,260	2.5
	Rate[1]	66.2	54.9	31.9	43.4	26.1	32.0	44.4	78.6	31.7	48.0	35.2	116.6	113.7	NA*
Syphilis (P&S)	Cases[1,3]	41	24	11	9	2	3	27	7	6	130	106	425	340	25.0
	Rate[1]	4.7	3.6	2.7	1.5	0.7	1.0	4.9	2.0	1.1	2.8	2.3	9.2	7.4	NA*
Enteric															
Campylobacter	Cases	6	5	5	1	3	9	5	7	8	49	74	158	183	-13.7
Hepatitis A	Cases	0	0	0	0	0	0	0	0	1	1	2	3	6	NA*
	Rate[1]	0	0	0	0	0	0	0	0	0.3	0	0	0.1	0.1	NA*
Salmonella	Cases	44	33	27	59	32	24	26	42	57	344	340	817	749	9.1
	Rate[1]	4.2	5.8	7.2	11.4	11.9	7.9	5.1	12.0	14.8	8.0	7.9	18.9	17.4	NA*
Shigella	Cases	5	8	1	8	2	6	5	5	3	43	27	120	112	7.1
	Rate[1]	0.5	1.4	0.3	1.6	0.7	2.0	1.0	1.4	0.8	1.0	0.6	2.8	2.6	NA*
Vibrio, cholera	Cases	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Vibrio, other	Cases	2	1	3	0	1	0	0	0	0	7	12	40	36	NA*
Other															
H. influenzae (other)		0	2	1	2	0	1	0	0	1	7	4	42	35	20.0
N. Meningitidis		0	0	0	0	0	0	0	0	0	0	2	4	6	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.

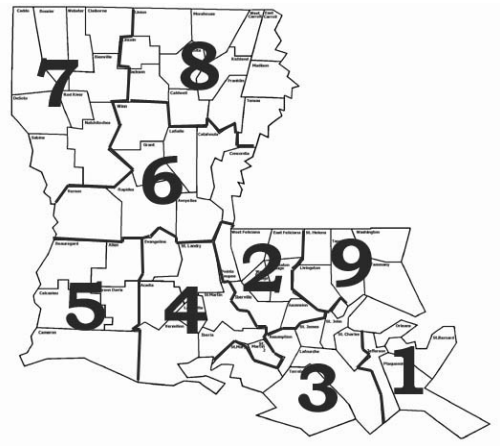
[3] = Prelminary data.

* = 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	29
Lyme Disease	2
Malaria	5
Rabies, animal	4
Varicella	60

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