Louisiana Morbidity Report

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

Infectious Disease Epidemiology Main Webpage
www.infectiousdisease.dhh.louisiana.gov

Bobby Jindal
GOVERNOR

Kathy Kliebert
SECRETARY

November - December 2013 **Volume 24, Number 6**

Naegleria fowleri Primary Meningoencephalitis Louisiana, 2013

Clinical History

On July 27, 2013 a four-year-old boy was admitted into a hospital for meningoencephalitis. The child's condition got worse; he died in early August in spite of treatment. No definite etiology was determined as the cause of death. Specimens were sent to the Centers for Disease Control and Prevention (CDC) for additional testing of brain tissue. In mid-August, the etiologic diagnosis of primary amebic meningoencephalitis (PAM) due to *Naegleria fowleri* (Nf) was confirmed.

Epidemiological Investigation

The epidemiologic investigation focused on soil and water contact during the prior two weeks, when the boy spent visiting a relative in Violet, Louisiana (St. Bernard Parish). It appeared that this child had no contact with surface water (pond, river, ditch or puddle) during the entire period. Besides contact with tap water while inside the home, he played in the yard adjacent to the house. On July 18, he had spent almost the entire day playing on a backyard water slide; as the water slide sprayed water, the child slipped both head first and feet first into the water.

Given an exposure on July 18 with the onset on July 25, the incubation period of seven days was consistent with that of PAM.

Two garden hoses were used to connect an outside faucet to the water slide. This faucet was located between the municipal water connection and the home. After consultation with the CDC, it was decided to collect water samples from the hoses, the water slide

(continued on page 3)

Contents

Influenza Update Louisiana, 2013

Julie Hand, M.S.P.H.

Influenza activity remains low as of the end of November in Louisiana, which is typical for this time of year. Flu activity has increased slightly in the United States, but remains low nationally overall. Increases in activity are likely in the coming weeks.

Influenza Surveillance in Louisiana has three main components: passive, laboratory and active virologic.

Passive Surveillance

The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) is an online reporting system maintained by the Centers for Disease Control and Prevention (CDC) that is designed to collect information on influenza-like illness (ILI). The outcome of interest is the number of clinical illness cases consistent with influenza (i.e. influenza-like illness or ILI) occurring in the general population.

The ILI case definition is fever ≥100°F [37.8°C], oral or equivalent, AND cough and/or sore throat (without a known cause other than influenza).

Data collected using any other case definition cannot be used. It is important to note that there is no requirement for a positive influenza test (i.e. rapid influenza diagnostic test) when determining the number of patient visits with ILI.

ILINet providers report the following summary data each week:

- Total number of patient visits for any reason
- Number of patient visits for ILI in the following age-groups: newborn - 4 years; 5 - 24 years; 25 - 49 years; 50 - 64 years; older than 64 years.

Participation in ILINet is open to the following healthcare providers and settings: Family practice, pediatricians, internal medicine, student health, infectious disease, hospital emergency departments, community clinics and urgent care. Though not required for participation in ILINet, influenza surveillance laboratory testing of a sample of patient specimens is also offered to participants free of charge at the state laboratory.

According to a survey of ILINet providers, most reported that it takes less than 30 minutes to compile and report their weekly data (50 percent report in 15 minutes or less and 39 percent report in 15 - 30 minutes).

Providers report data weekly by noon each Tuesday through the CDC's ILINet website or by fax. Direct reporting to CDC increases the timeliness of data receipt and analysis. If providers report by

(continued on page 5)

Hepatitis A Virus (HAV) Reporting: An Evaluation of Non-Cases Louisiana, 2013

Andrej Pogribny, M.D., M.P.H. Candidate

In Louisiana, from January 1, 2013 to August 30, 2013 there were 125 case reports of hepatitis A. Of these cases, only six could be confirmed, while 119 were not confirmed. These 119 unconfirmed cases were reviewed to determine if they were properly classified and to understand the reasons for which they would not meet the case definition established for surveillance purposes.

Cases of hepatitis A infection are reported through the Department of Health and Hospitals' Infectious Disease Epidemiology Section's Infectious Disease Reporting Information System (IDRIS). Case definitions are established by the Council of State and Territorial Epidemiologists in collaboration with the Centers for Disease Control and Prevention (CDC).

Hepatitis A is a reportable, acute, and self-limited viral illness. It is transmitted fecal-orally, and is more common in places of poor sanitation and hygiene. In the U.S., the yearly incidence of hepatitis A has dwindled; each state reports only a handful of cases yearly. The use of vaccinations and targeting higher-risk groups have contributed highly to the low amount of hepatitis A in this country. Although confirmed case reports are low, the Office of Public Health still receives from doctors, clinics, hospitals and labs, a significantly larger amount of possible cases that need to be reviewed.

Population and Methods

The definition of a confirmed case of acute hepatitis A must meet both the clinical description and the laboratory criteria, or be a case that meets the clinical case definition and occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A (i.e., household or sexual contact with an infected person during the 15 - 50 days before the onset of symptoms).

1-Clinical Description: An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea and abdominal pain), and either a) jaundice, or b) elevated liver function tests (LFT) serum alanine aminotransferase (ALT >200 IU/L) or aspartate aminotransferase (AST) levels

2-Laboratory Criteria for Diagnosis: Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive

It is important to remember that a case definition is not a diagnosis. A case definition has to be standardized so as to have a consistent and standardized reporting throughout all jurisdictions. A diagnosis is a more flexible tool; it is made by a clinician and serves as the basis for the patient management.

Results

Four (4) cases met the case definition. The breakdown of the 119 unconfirmed cases follows:

- 80 reports included positive anti-HAV IgM test results
  - three reports included high ALT >200 IU/L and could have been considered acute hepatitis A, but there were no recent symptoms consistant with acute viral hepatitis
  - three reports included LFTs that did meet the laboratory confirmation levels, but had other severe hepatitis conditions that could explain their high ALT (biliary obstruction or cirrhosis)
  - 74 reports included only anti-HAV IgM test results with no elevated ALT, or ALT levels not measured
- 39 reports were considered unconfirmed due to
  - 11 reports of negative or indeterminate anti-HAV IgM antibody
  - 28 reports with no anti-HAV IgM test results.

Total anti-HAV antibody test results were reported for 30 individuals, including 23 where no anti-HAV tests were performed, four with positive anti-HAV IgM positive and three with anti-HAV IgM negative. Total antibody does not allow a differentiation between recent or old infection. The main purpose for identifying acute cases is to conduct contact investigations and to prevent disease occurrence among contacts. Investigations around "old" cases would be pointless. In summary, testing for total anti-HAV seems to be useless to diagnose recent infection.

Discussion

It was found that almost all of the cases were correctly labeled as "unconfirmed cases". In examining the data for the reasons why a suspected case was reported, by and large, the evidence suggests that cases were reported due to a false-positive lab result. Eighty of the 119 cases were IgM positive. Anti-HAV IgM positivity has been observed to remain positive in patients for greater than 200 days in one study; in another study, anti-HAV IgM was detected more than 30 months after the onset of symptoms. With any test, no matter how sensitive or specific, the positive-predictive value of a test will diminish if the disease prevalence is low. Therefore, testing of anti-HAV IgM antibody should be performed only if clinical signs and symptoms strongly point toward acute hepatitis.

The 39 remaining cases could be attributed to the reporting of total hepatitis A antibody or even IgG antibody. A total hepatitis A antibody or even the IgG antibody do not indicate infection; rather, they show past infection, or that immunity is present.

Furthermore, the data collected showed that in the newborn

Louisiana Morbidity Report
Volume 24, Number 6 November - December 2013

The Louisiana Morbidity Report is published bimonthly by the DHH OPH Infectious Disease Epidemiology Section, to inform physicians, nurses and public health professionals about disease trends and patterns in Louisiana. Address correspondence to Louisiana Morbidity Report, Infectious Disease Epidemiology Section, Louisiana Department of Health and Hospitals, P.O. Box 60630, New Orleans, LA 70160.

Assistant Secretary, OPH ***J.T. Lane***

State Epidemiologist ***Raoult Ratard, M.D., M.P.H.***

Editors ***Theresa Sokol, M.P.H.***
Julie Hand, M.S.P.H.
Rosemarie Robertson, B.S., M.T.(C), C.N.M.T.

to 19-year–old age group as compared to the adult group (30 and over), a significant amount of the children had a total antibody test positive at 50 percent as opposed to 21 percent in the adult (OR=3.68 p-value: 0.01). Observation of the database, confirms this finding to a degree showing that many of the children were solely tested for total antibody. One possibility is that much of the positive total antibody in this group is due to vaccination which will confer positive total immunity. Vaccination status and date of vaccination, unfortunately, were not reported in the IDRIS system during this search.

The answer may also be due to asymptomatic infection. Most hepatitis A infections in children present with no discernable symptoms and are often incidental findings.

Recommendations

Similar findings were discussed in a CDC Morbidity and Mortality Weekly Report (MMWR) (May 2005). The article found similar results, and its suggestion should be reiterated. The hepatitis A IgM serology test is a confirmatory test that should be performed when hepatitis A is suspected, specifically when signs and symptoms of acute hepatitis are present, or a patient has been in close contact to a confirmed hepatitis case already. The greatest utility of the laboratory test is when the prevalence is deemed higher, allowing the positive predictive value of the test to be high as well. Reflexive viral hepatitis panel testing is therefore both harmful and costly. It should be recommended to physicians and hospitals to only test for hepatitis A when it is clinically probable.

For more information, please call (504) 568-8313.

(Naegleria fowleri ... continued from page 1)

and several locations inside the residence (Table 1).

Table 1: Results of Soil and Water Sample Testing-Violet, Louisiana, 2013

Sample ID	Quantity Collected (Liter or Kg)	Residual Chlorine (mg/L)	Direct PCR Results for *N. fowleri*	Culture Observations-Amebas Present?	Culture PCR Results for *N. fowleri*	Flagellation?	Genotype Results
Soil #1 (contains grass, yellow tie)	~1kg	---	Pos	Y	Neg		G I
Soil #2 (no grass, orange tie)	~1kg	---	Neg	Y	Neg		
Garden Hose #1 (green)	1.0L	---	Pos	Y	Pos	Neg	G III
Garden Hose #2 (orange)	1.2L	---	Pos	Y	Pos	Pos	G III
Water Slide	1.9L	---	Neg	Y	Neg		
Outside Hose Bib	158.0L	0.0	Pos	Y	Pos	Pos	G III
Kitchen Sink Hot Water	0.7L	0.0	Neg	Y	Neg	Neg	
Bathtub Faucet	0.7L	0.0	Neg	Y	Neg	Neg	
Bathtub Faucet, Sink, Showerhead	Swab	---	Neg	Y	Neg		
Toilet Tank	0.7	0.0	Neg	Y	Pos	Pos	G III
Hot Water Heater	0.7	---	Neg	Y	Pos	Pos	G III

One of the soil samples was positive for Nf-Genotype I. Numerous samples from inside the residence hot and cold water system, the hoses, and the outside faucet located between the street water line and the home were positive for Nf-Genotype III, similar to the type encountered in the child's brain tissue, leaving no doubt as to the exposure of the child.

Concerns about the drinking water system were immediately raised for the following reasons:

1-There was a PAM case due to Nf in 2011 in the same public water system*. The water source was tap water from the residence, used during a sinus irrigation with a neti pot.

2-There was no chlorine residual in the water from the faucet.

To address these concerns, the Department of Health and Hospitals' Office of Public Health, after consultation with the CDC, collected samples of water from the town water supply focusing on areas of low chlorine residual (Table 2).

Table 2: Results of St. Bernard Water Supply Testing Prior to Remediation Louisiana, 2013

Sample ID	Volume Collected (L)	Total Chlorine (mg/L)	Direct PCR Results for *N. fowleri*	Culture Observations-Amebas Present?	Culture PCR Results for *N. fowleri*	Flagellation?	Genotype Results
Water Tower Ultrafilter, Violet, LA.	119.0	1.7	Neg	No	Neg		
Flushing Station Packenham Rd. - Grab Sample, Violet, LA.	0.7	1.2	Neg	No	Neg		
Water Tower Grab Sample, Violet, LA.	0.7		Neg	No	Neg		
Water Plant Grab Sample, St. Bernard Reservoir, LA.	0.7	3.8	Neg	No	Neg		
Water Plant Ultrafilter, St. Bernard Reservoir, LA.	119.0		Neg	No	Neg		
Location #1-Angelique Dr. Outside Hose Bib Ultrafilter, Violet, LA.	510.3	0.24	Neg				
Location #1-Hot Water Heater Grab Sample	0.5		Neg				
Location #2-Meraux Ln.Outside Hose Bib Ultrafilter, Meraux, LA.	340.2	0.53	Neg				
Location #3-Beachhead Ln. Outside Hose Bib Ultrafilter, Violet, LA.	418	0	Neg				
Location #4-Angela Ave.Outside Hose Bib Ultrafilter, Arabi, LA.	350	0	Pos	Y	Pos	Pos	G III
Location #5-Mehle Ave. Outside Hose Bib Ultrafilter, Arabi, LA.	302.4	0	Pos	Y	Pos	Pos	G III
Franke Pl. and St. Bernard Hwy. Ultrafilter, Violet, LA.	146.1	0.1	Neg				
W. Smith Jr. Elementary School Ultrafilter, Violet, LA.	116.2	0.3	Neg				
Cougar Dr. Ultrafilter, Arabi, LA.	136.3	0.2	Neg				
Bridgehead St. Fire hydrant Ultrafilter, Violet, LA.	235.5	trace	Pos	Y	Pos	Pos	G III
Mehle Ave. Fire hydrant Ultrafilter, Arabi, LA.	200.6	0	Pos	Y	Pos	Pos	G III

It became obvious that the source of the *Naegleri fowleri* was the municipal water supply.

Nf is a free living ameba commonly found in soil and water throughout the world. It can also become a human parasite under very special circumstances. It has to penetrate the human body (and in other animals) through the paper thin bone layer (the "cribriform plate") that separates the ceiling of the nasal cavity and the base of the brain. Then Nf proliferates in the brain tissue causing a nearly always fatal meningoencephalitis. The majority of exposures come from submersion of the head under surface waters (diving in ponds, swimming in lakes and rivers, playing in ditches or puddles). Cases linked to domestic water supplies have been less common. Most of these have occurred when water supplies were not treated, or did not have sufficient residual chlorine. It is estimated that a residual chlorine level of 0.5 mg/L is sufficient to prevent the multiplication of Nf.

Following this case, the parish switched from chloramine to free chlorine disinfection of its water distribution system. Chlorine levels were increased and a parish-wide residual of not less than 1.0 ppm free chlorine was achieved.

For a more detailed discussion of free-living ameba parasitology, modes of exposure, case histories and prevention, visit the Infectious Disease Epidemiology Section, Epidemiology Manual dhh.louisiana.gov/index.cfm/page/531.

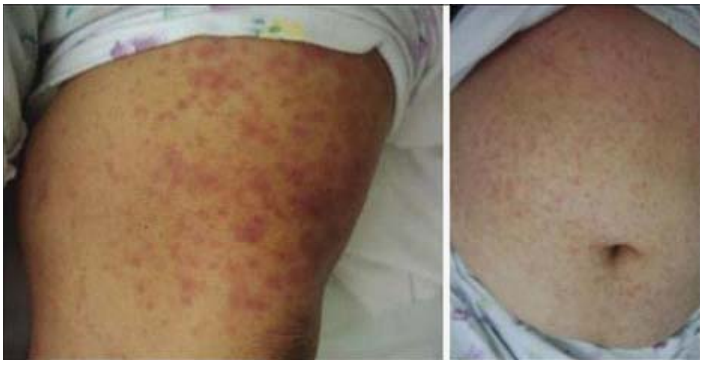
** Louisiana Morbidity Report Vol 22 # 5, Sept-Oct, 2011*

Brucellosis - Louisiana, 2008-2012

Adrianne Reeks, M.P.H. Candidate

Brucellosis is a Class A zoonotic disease that can cause infections in humans which may affect one or more organ systems. Symptoms include fever, night sweats, undue fatigue, weight loss, headache and arthralgia; cardiovascular infections are often another symptom of this disease. Cutaneous manifestations are extremely uncommon with a brucellosis infection but it should be noted that they can occur and should be considered when making the differential diagnosis (Figure).

Figure: Patient with Cutaneous Manifestations of a *B.melitensis* Infection



Maculopapular Lesions on the Knee and Abdomen

This patient was a 49-year-old female admitted to the hospital after having experienced intermittent fever, fatigue, nausea and vomiting for a period of three weeks. After having conducted a physical examination and an abdominal ultrasound, it was confirmed that the patient was also suffering from an enlarged spleen. Further tests were done which concluded that the patient was experiencing a reduction in red and white blood cells as well as platelets.

A confirmed case of brucellosis will have symptoms compatible with the clinical description of the disease as well as a positive laboratory culture/PCR for *Brucella* spp. Brucellosis typically has an incubation period between five and 60 days; because of this, cases may experience recall bias trying to remember possible exposures that are from several months prior to diagnosis. The treatment of brucellosis usually consists of a combination antibiotic therapy; however, recovery may take up to several months.

Transmission occurs when a human comes in contact with tissues, urine, blood and other bodily fluids of an infected animal. Another route of transmission occurs through the consumption of unpasteurized milk or milk products coming from infected animals. Consumption of infected meat products is not as great of a risk to an individual for two reasons: first, the *Brucella* bacteria are not normally found in muscle tissue and second, the high temperatures used for cooking will degrade the bacteria rendering it harmless to the consumer. Brucellosis is considered an occupational illness and is especially prevalent among slaughterhouse workers, veterinarians, lab technicians and livestock handlers.

B. melitensis, B. abortus, B. suis and *B. canis* are the four species of *Brucella* that have been known to cause an infection in humans. *B.melitensis* is the cause of the most common infection that can occur in humans; however, all recent cases of *B.melitensis* have either been imported or the result of laboratory exposure to isolates of the imported *B.melitensis* cases. The case fatality rate for brucellosis is very low, at approximately two percent in humans; most deaths that do occur are often due to endocarditis caused by the *B.melitensis* strain. Despite the low case fatality rate, brucellosis is actually the most commonly reported lab-related bacterial infection to occur in laboratory personnel. Laboratory workers have a high risk of exposure to brucellosis because the bacteria have such a low infectious dose as well as being easily aerosolized.

Brucellosis was one of the seven bio-agents that were mass-produced for weaponization by the U.S. Biological Warfare Program in 1954, likely due to its ease of aerolization. Brucellosis could also pose a great threat as an agent in agroterrorism because infection in animals is associated with reproductive failure, which could result in a collapse of the livestock industry. Countries, like the U.S., which have brucellosis nearly eradicated from the domestic animal populations, would be most vulnerable to such agroterrorism threats. The bacteria's long incubation period means that detecting the pathogen would be very difficult and tracing where it originated from would be nearly impossible. The necessary control measures taken to correct this type of outbreak would place economic strains not only on the animal owners, but also the local authorities.

Cases

Throughout the period of 2008 to 2012, there have been four cases of brucellosis reported in Louisiana (Table).

Table: Brucellosis Cases – Louisiana, 2008-2012

Year	Species	Possible Exposure	Age/Gender	Occupation
2008	Not specified	Dog bite	12 Female	Student
2009	*Melitensis*	Helped nurse a calf, owns multiple pets, and remembers helping slaughter and dress a wild hog.	62 Male	Retired
2012	*Melitensis*	Skinning/Slaughtering pigs	63 Male	Truck Driver
2012	*Suis*	Skinning/Slaughtering pigs	71 Female	Not specified

Case #1: In 2008, this is a confirmed brucellosis case whose symptoms included intermittent fever, body aches, weakness, headache and malaise. The family of Case #1 purchased a six-week-old puppy that was, at the time, ill and treated for parasites by their veterinarian. When the dog was roughly six-months-old and a couple of weeks prior to diagnosis, Case #1 was bitten on the lip by the dog. No brucellosis test was done on the dog to determine if it was the source of Case #1's illness.

Case #2: In 2009, this confirmed brucellosis case had symptoms which included intermittent fever, chills, weight loss, sweating, body aches, weakness, malaise and anorexia. He had owned a cow for about 10 years and also purchased a calf from a stockyard sale. The calf was not nursing very well, so in an attempt to make it nurse better, he stuck his fingers in raw milk and let the calf suck on them so it might learn how to properly nurse. This case also remembers that the winter prior to his diagnosis, his son killed a

(continued on page 6)

(Influenza ... continued from page 1)

Internet, data are immediately available to surveillance coordinators on the password-protected influenza surveillance website.

Laboratory Surveillance

Commercial rapid diagnostic tests are available that can detect influenza viruses within 15 minutes. Some tests are approved for use in any outpatient setting, whereas others must be used in a moderately complex clinical laboratory. These rapid tests differ in the types of influenza viruses they can detect and whether they can distinguish between influenza types. Different tests can detect 1) only influenza A viruses; 2) both influenza A and B viruses, but not distinguish between the two types; or 3) both influenza A and B and distinguish between the two types. None of the rapid diagnostic tests provides any information about influenza A subtypes.

Providers, clinics and hospitals can also enhance the data collected by reporting rapid influenza test results. Obtaining the number of tests that were positive for influenza A, influenza B, undifferentiated A/B or specific subtypes of influenza assists public health in determining which types of influenza are circulating around the state (Figures 1 and 2).

Figure 1: Influenza Rapid Test Results Reported by Sentinel Sites and Hospitals - Louisiana, 2013-2014 Season

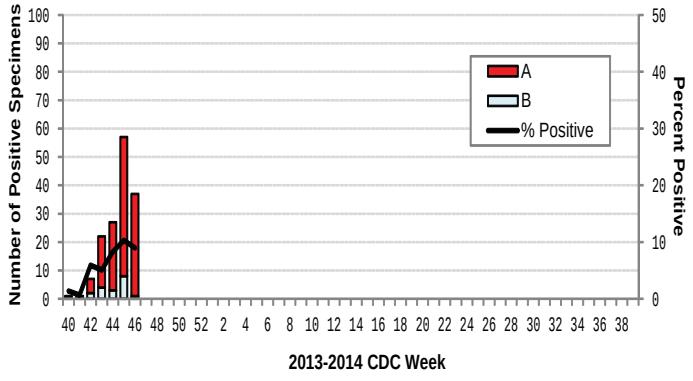
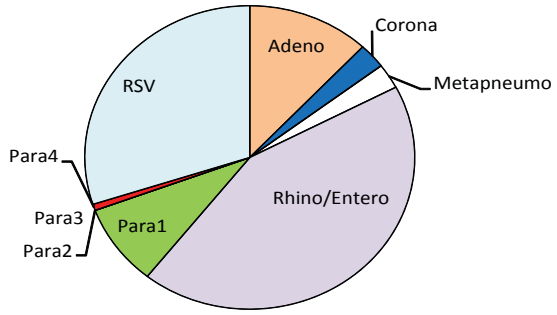


Figure 2: Other Respiratory Virus Results Reported by Sentinel Sites and Hospitals - One Week Sample - Louisiana, 2013-2014 Season



**Based on results from the Office of Public Health Laboratory Respiratory Virus Panel (RVP) Testing and other labs reporting RVP results during the current reporting week.*

Active Virologic Surveillance

Virologic surveillance is an essential component of influenza surveillance. A comprehensive system for influenza virologic surveillance is important to confirm when and where influenza viruses are circulating each year and identify changes in the circulating viruses which may impact vaccine or treatment decisions or signal the emergence of a new virus with pandemic potential.

Beginning in the 2013-2014 influenza season, the goal is for the Louisiana Department of Health and Hospitals' Public Health Laboratory to increase samples to meet requirements in the Association of Public Health Laboratories' Influenza Virologic Surveillance Right Size Roadmap. The increase in sample submission will require regular participation from a core group of surveillance sites statewide. All materials required for sample collection and submission will be provided free of charge and transportation will be coordinated through a transport company.

Participation in active surveillance will require:

- Collecting a nasal or nasopharyngeal (NP) swab on all patients who present with clinical symptoms resembling influenza-like illness on any one day of the week.
- Packing specimens in an ice chest with proper ice blocks (all provided) for transport pick-up.

A portion of flu positives from active surveillance will be forwarded to the CDC for further antigenic characterization and antiviral resistance testing. All flu negative NP swabs submitted will be tested for other respiratory viruses including respiratory syncytial virus, parainfluenza, human metapneumovirus, and adenovirus.

Weekly reports are posted on the Influenza page at the Infectious Disease Epidemiology website dhh.louisiana.gov/index.cfm/page/1591.

IDEPI Question/Answer Corner

Can a hospital, office or individual get information about a patient's past record over the phone from Infectious Disease Epidemiology (IDEpi)?

No. Because a person's identity cannot be verified over the phone, no information can be given out about an individual case, past or present, due to HIPAA regulations.

Media sometimes requests information on an outbreak. Are there public reports that they can receive?

Louisiana laws prevent IDEpi from communicating the results of an epidemiologic investigation: TITLE 40, PUBLIC HEALTH AND SAFETY, CHAPTER 1. DIVISION OF HEALTH AND HEALTH OFFICERS, PART I. STATE DIVISION OF HEALTH, §3.1. Confidentiality of public health investigations; prohibited disclosure and discovery; civil penalties

The purpose of this law is to allow institutional staff to speak openly to investigators without fear of retribution. To comply with Louisiana law, there are no public reports.

Where can one get rabies (post-exposure) vaccine?

The vaccine is available at some large pharmacies and some large regional hospitals. (Check with the pharmacy or emergency department near you.)

Louisiana State University (LSU) Medical Center pharmacies and LSU hospitals carry it.

The vaccine **cannot** be found at the local health department.

(Brucellosis ... continued from page 4)

wild hog, which he had helped dress afterwards.

Case #3: In 2012, this confirmed brucellosis case experienced symptoms that included fever, night sweats and chest pains. This case also came in contact with pigs when he would skin and slaughter them.

Case #4: In 2012, this case experienced fever, night sweats and headaches. This case also would skin/slaughter pigs.

Discussion:

The annual incidence rate of brucellosis in Louisiana is 1.7 cases per 10 million individuals. The U.S., in comparison, has an incidence rate of 3.25 brucellosis cases per 10 million individuals. These rates exemplify how rare brucellosis is as an infectious disease in humans, not only in Louisiana, but also the entire United States.

Although brucellosis is an uncommon illness, it is still critical that it be monitored continuously due to its potential threat to not only the livestock population, but also certain occupational/recreational groups such as lab personnel and livestock handlers. Laboratory workers are at a greater risk for contracting a *Brucella* infection because they are more likely to come in contact with an actual culture of the bacteria on a daily basis. Likewise, livestock handlers have an equally high risk because they may also be dealing with animal carcasses.

There is growing concern in the southeast region of the U.S. for *B. suis*, or 'Swine Brucellosis'. Feral hogs can tolerate a wide range of climates and are opportunistic omnivores; they will eat almost anything. They are only vulnerable to predation when they are young. Feral hogs also have the ability to reproduce rapidly and can begin doing so as early as six months of age.

Recently, in Louisiana, there has only been one case of *B.suis* infection that was diagnosed in 2012. However, the June 12, 2009 issue of the *Morbidity and Mortality Weekly Report* published by the Centers for Disease Control and Prevention, reported three cases of *B.suis* infection throughout three states: South Carolina, Pennsylvania and Florida. These cases presented with *B.suis* infection, all experiencing flu-like symptoms, after having participated in feral swine hunting which took place in Florida. The State Health Departments of South Carolina and Pennsylvania had to conduct a joint investigation with Florida's State Health Department in order to accurately confirm the source of these cases' illnesses.

Since the symptoms of a brucellosis infection are often flu-like, and can take as long as six months to appear, it is possible that *B.suis* cases may be underreported. This makes it very important for physicians to inquire about travel history, recreational activities, food consumption and occupation when patients present with nonspecific flu-like symptoms. The best method for preventing *B.suis* infection will have to include education for hunters concerning safe practices of butchering, dressing, and cooking of the game meat. Regardless of what type of *Brucella* infection is diagnosed, all should be investigated both by the state health department and any agricultural agencies in order to determine the true source of the infection and to prevent any further infections in humans.

Efforts to completely eradicate brucellosis from the U.S.began in 1934 when *B.abortus* was very common among the cattle population. The Brucellosis Eradication Program was established between the states, the federal government and livestock operations. The program has made great strides now that there are no longer any known affected cattle herds. Even though the advancements in technology have made elimination of brucellosis more effective as compared to 1934, the program still emphasizes the importance of a diligent surveillance system that all states should adhere to in order to maintain this eradication. Documented cases have occurred in livestock populations, even in areas that are considered *Brucella* -free. It is likely that these cases are the result of transmission from other wildlife which further emphasizes the importance of surveillance. Without a proper surveillance system in place, the source of the disease will not be found allowing further infections to occur. Education, surveillance and thorough investigations of potential brucellosis cases are essential at keeping this disease rare and non-threatening to the population.

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

Announcements

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

Annual Reports: Brucellosis; Pertussis
Epidemiology Manual: *Bacillus cereus;* Legionellosis Case Report Form (CDC)*;* MRSA Summary; Pediculosis Summary
HAI: Winter 2013 Newsletter
Infection Control Manual: *Clostridium difficile*
Influenza: Weekly Report
Leeds: Leeds Syndromic Surveillance in Louisiana; Registration Page
School Manual: Allergy link added

Infectious Disease Epidemiology Training - November 13, 2013 - Natchitoches, Louisiana

Christine Scott-Waldron, Department of Health and Hospitals' Infectious Disease Epidemiologist, presents pertussis information to nurses and sanitarians from northern Louisiana parishes.

Table: Communicable Disease Surveillance, Incidence by Region and Time Period, September-October, 2013

DISEASE		HEALTH REGION 1	2	3	4	5	6	7	8	9	TIME PERIOD Sep-Oct 2013	Sep-Oct 2012	Jan-Dec Cum 2013	Jan-Dec Cum 2012	Jan-Dec % Chg*
Vaccine-preventable															
Hepatitis B	Cases	1	3	1	0	1	1	0	1	4	12	4	62	39	59.0
	Rate[1]	0.1	0.5	0.3	0	0.4	0.3	0	0.3	1.0	0.3	0.1	1.4	0.9	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	1	1	1	NA*
Rubella		0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Pertussis		5	4	4	7	1	0	3	1	2	27	11	158	54	192.60
Sexually-transmitted															
HIV/AIDS	Cases[2]	56	19	13	15	6	9	8	9	9	143	193	1030	909	13.3
	Rate[1]	5.6	3.3	3.4	2.8	2.2	3.0	1.6	2.6	2.1	3.3	4.4	23.6	20.8	NA*
Chlamydia	Cases[1,3]	302	145	73	137	97	25	202	137	108	1,226	5,572	18,035	21,992	-18.0
	Rate[1]	36.2	21.9	17.9	23.5	33.1	8.1	37.1	28.5	20.0	27.0	122.9	397.8	485.1	NA*
Gonorrhea	Cases[1,3]	100	39	27	52	22	9	63	50	11	373	1,642	5,388	7,226	-25.4
	Rate[1]	12.0	5.9	6.6	8.9	7.5	2.9	11.6	14.1	2.0	8.2	36.2	118.9	159.4	NA*
Syphilis (P&S)	Cases[1,3]	25	7	2	13	0	1	34	4	3	89	81	321	284	13.0
	Rate[1]	3.0	1.1	0.5	2.2	0.0	0.3	6.2	1.1	0.6	2.0	1.8	7.1	6.3	NA*
Enteric															
Campylobacter	Cases	1	6	2	2	9	4	3	6	7	40	34	220	158	39.2
Hepatitis A	Cases	0	0	0	0	0	1	0	0	2	3	1	9	4	125.0
	Rate[1]	0	0	0	0	0	0.3	0	0	0.5	0.1	0	0.2	0.1	NA*
Salmonella	Cases	28	31	16	55	24	21	18	37	45	275	427	1067	1362	-21.7
	Rate[1]	2.7	5.5	4.2	10.7	9.0	6.9	3.6	10.5	11.7	6.4	9.9	24.7	31.6	NA*
Shigella	Cases	3	29	3	13	1	2	1	2	15	69	39	314	169	85.8
	Rate[1]	0.3	5.1	0.8	2.5	0.4	0.7	0.2	0.6	3.9	1.6	0.9	7.3	3.9	NA*
Vibrio, cholera	Cases	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Vibrio, other	Cases	0	1	2	1	0	0	0	1	0	5	11	35	49	-28.6
Other															
H. influenzae (other)		0	0	0	1	0	0	0	0	4	5	10	41	51	-19.6
N. Meningitidis		1	1	1	0	0	0	1	0	0	4	0	10	3	233.3

[1] = Cases Per 100,000.

[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.

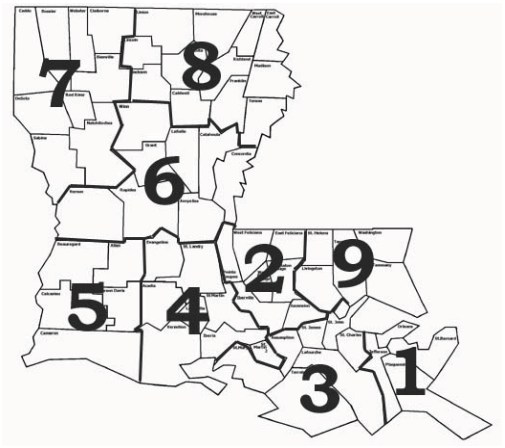
Table 2. Diseases of Low Frequency, January-December, 2013

Disease	Total to Date
Legionellosis	25
Lyme Disease	0
Malaria	7
Rabies, animal	7
Varicella	55

Table 3. Animal Rabies,Septmeber-October, 2013

Parish	No. Cases	Species
St. Tammany	2	Bat

Figure: Department of Health and Hospitals Regional Map



DEPARTMENT OF HEALTH AND HOSPITALS
OFFICE OF PUBLIC HEALTH
P.O. BOX 60630 NEW ORLEANS LA 70160

PRSRT STD
U.S. POSTAGE
P A I D
Baton Rouge, LA
Permit No. 1032

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 (iniital detection)
- Botulism
- Brucellosis
- Cholera
- *Clostridium perfringens* (foodborne infection)
- Diphtheria
- Fish/Shellfish Poisoning (Domoic Acid, neurotoxic, Cigueatera, paralyitc, 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 & carriage in pregnancy)
- Hepatitis B (perinatal infection)
- Hepatitis E
- Herpes (neonatal)
- Human Immunodeficiency Virus [(HIV), infection in pregnancy][2]
- Human Immunodeficiency Virus [(HIV), perinatal exposure][2]
- 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 (AIDS)[3]
- Anaplasma Phagocytophilum
- Blastomycosis
- Campylobacteriosis
- Chlamydial infection[1]
- Coccidioidomycosis
- Cryptococcosis
- Cryptosporidiosis
- Cyclosporiasis
- Ehrlichiosis (human granulocytic & monocytic, *Ehrilichia chaffeenisis*
- Enterococcus, Vancomycin Resistant [(VRE), invasive disease]
- Giardia
- Glanders
- Gonorrhea[1] (genital, oral, ophthalmis, pelvic inflammatory disease, rectal)
- Hansen Disease (leprosy)
- Hepatitis B (carriage, other than in pregnancy)
- Hepatitis C (acute illness)
- Hepatitis C (past or present infection)
- Human Immunodeficiency Virus (HIV (infection other than as in Class B)[2]
- Human T Lymphocyte Virus (HTLV I & 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 (newborns)[4]
- 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

This public health document was published at a total cost of $1,400.00. Seven thousand two hundred copies of this public document were published in this first printing at a cost of $1,400.00. The total cost of all print ings of this document, including reprints is $1,400.00. This document was published by DHH OPH Infectious Disease Epidemiology Section to inform physicians, hospitals, and the public of current Louisiana morbidity status under authority of R.S. 40:36. This material was printed in accordance with the standards for printing for state agencies established pursuant to R.S. 43:31.