Louisiana Morbidity Report

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

Infectious Disease Epidemiology Main Webpage
http://www.infectiousdisease.dhh.louisiana.gov

Bobby Jindal
GOVERNOR

Bruce D. Greenstein
SECRETARY

May - June 2012 Volume 23 Number 3

Fungal Endophthalmitis Louisiana, 2011-2012

Julie Holden, MD; Marceia Walker, M.Ed; Susanne Straif-Bourgeois, PhD, MPH

Background:

The Centers for Disease Control and Prevention (CDC), Federal Drug Administration, and state and local health departments are investigating a multi-state outbreak of 33 cases of fungal endophthalmitis occurring after invasive eye procedures and surgeries (Figure).

Figure: Fungal Endophthalmitis With Corneal Ulcer

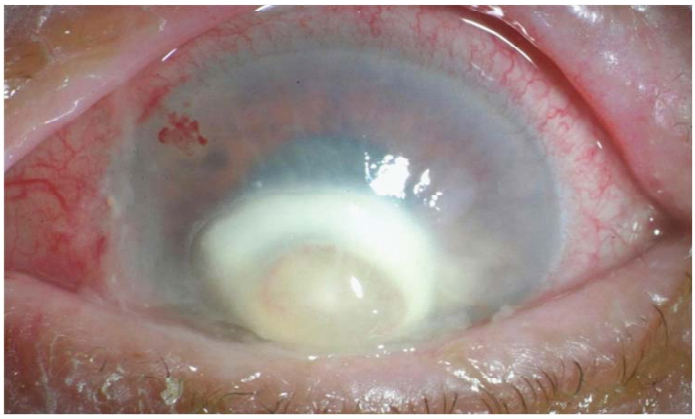


Photo courtesy of Kernt M, Kampik: *A Endophthalmitis: Pathogenesis, clinical presentation, management, and perspectives. Clin Ophthalmol. 2010 Mar 24;4:121-35.*

Cases had been reported in California, Colorado, Illinois, Indiana, Louisiana, Nevada and New York; the earliest symptoms were

(Continued on Page 6)

Contents

The Case of Measles That Wasn't, Or 'Delusional Measles' Louisiana, 2012

Background:

"In 2000, the United States achieved measles elimination (defined as interruption of year-round endemic measles transmission). However, importations of measles into the United States continue to occur, posing risks for measles outbreaks and sustained measles transmission. During 2011, a total of 222 measles cases (incidence rate: 0.7 per 1 million population), and 17 measles outbreaks (defined as three or more cases linked in time or place) were reported to the CDC (Centers for Disease Control and Prevention), compared with a median of 60 (range: 37-140) cases and four (range: 2-10) outbreaks reported annually during 2001-2010……"

"**Confirmed measles cases** in the United States are reported by state and local health departments to the CDC using a standard case definition. A measles case is considered confirmed if it is laboratory-confirmed or meets the clinical case definition (an illness characterized by a generalized rash lasting ≥3 days, a temperature of ≥101°F [≥38.3°C], and cough, coryza, or conjunctivitis), and is linked epidemiologically to a confirmed case."*

Laboratory confirmation of measles is made by either one of the following:

- Detection in serum of measles-specific immunoglobulin M (IgM)
- Significant rise in measles immunoglobulin G (IgG) level
- Isolation of measles virus
- Detection of measles virus by nucleic acid amplification from a clinical specimen.

Note: - IgM may take four days after rash onset to appear and last for 28 days. After immunization, 2% are positive at one week, 75% are positive at one month, 10% are still positive after two months.

- IgG rarely occurs before seven days after onset

Cases are considered **importations** if exposure to measles virus occurred outside the United States seven to 21 days before rash onset and rash occurred within 21 days of entry into the United States, with no known exposure to measles in the United States during that time.

Case Study:

Patient A's onset: On March 6, 2012, Patient A vomited during the

(Continued on Page 2)

* Measles - United States, 2011. The CDC's *Morbidity and Mortality Weekly Report* -April 20, 2012, Vol.61(15);253-257 and according to the Measles 2010 case definition available in the *Council of State and Territorial Epidemiologists Position Statement 09-ID-48.* (http://www.cdc.gov/osels/ph_surveillance/nndss/casedef/measles_2010.htm)

(The Case of Measles ... Continued from Page 1)

day and developed a rash that evening. The next day, a rash appeared on his face and spread to his chest and legs over the next few hours. No diagnosis was made at the time of the clinic visit. Later, Patient A had a fever (100.7°F) with conjunctivitis starting within the next few days. On March 10th, Patient A's parents returned for medical care for him.

Patient A is diagnosed with measles: Upon returning after four days, Patient A's parents were told that he had measles; blood was drawn for measles testing and sent to a private lab. The parents were advised to keep Patient A out of day care for four days. The physician, who had seen measles in the past, was certain that the rash is measles.

Was it really measles? Apparently the issue was not raised in spite of the lack of risk factors and a fuzzy clinical picture: Patient A had had two MMR vaccines at age one, the first one in January 2010 and the second one in July the same year; now, eight months later, he is suspected to have measles. Patient A and his family had no history of travel outside the U.S. and had no visitors from abroad. There was no history of any relatives, friends or anyone whom they knew with a rash.

But the lab result is positive? On March 14, 2012, the lab results showed both highly positive measles anti-IgG and anti-IgM antibodies. At that time, the case was reported to the Department of Health and Hospitals (DHH) Office of Public Health (OPH).

All evidence points away from a real measles case: Although not completely typical of measles (lack of prodrome lasting for a few days before the onset of the rash, moderate fever, onset of rash, fever and conjunctivitis at the same time) it is conceivable that the rash could have been considered suspect. If the rash was so typical, why was measles only suspected some four days into the rash? On March 6th, the child's parents were told to keep their child away from day care, but no recommendation was made to warn the day care center and no report was made to the DHH OPH. It was only one week after onset and after receiving lab test results that the medical center reported the case.

After vaccination, it is no surprise to observe positive serologic results. Serology is not very useful under these circumstances.

Epidemiologically, it would be extraordinary to have a child with two MMRs having measles in an area with no measles, no history of travel, no contacts with visitors from abroad and no contacts with anyone with measles-suspect rashes.

But the story goes on... Continuing the investigation, DHH OPH followed up with the day care, warning the center director and the parents, making sure that all children had proper immunizations, excluding those who were not immunized, and establishing surveillance for the staff and contacts at the medical clinics. All in all, DHH OPH contacted 95 parents who had children in the same physician's waiting room as Patient A, 36 contacts through the day care, eight at health care facilities and ten family contacts. None have reported any rash or any measles-like symptoms.

In this process, DHH OPH uncovered **more rashes**:

- Patient B with a rash on arms and legs starting on March 14, 2012, and a history of MMR in 2008

- Patient C with a rash started on March 6, 2012, with fever, sore throat attributed to strep throat, and rash on his face spreading the next day to his entire body. In the course of the next nine days, Patient C went to two more health care facilities where the initial diagnosis of scarlet fever rash morphed into urticarial rash and ended up as "probably a viral rash".

To avoid increasing the original confusion, **nasopharyngeal swabs** were collected on any suspect of measles as well as blood for serologic testing. All were negative. For Patient A, the naso-pharyngeal swab was collected very late after onset. All sera were positive for IgG (not surprising since all had been well-immunized with MMR), and negative for IgM at the CDC laboratories.

A clinical diagnosis of measles has a very poor predictive value. In 2004, Katz reviewed four studies on the clinical diagnosis of measles. The clinical case definition was: generalized maculopapular rash, fever (≥38.3°C, if measured), and either a cough, coryza, or conjunctivitis. Serological confirmation was used as the confirmatory test. The predictive value of clinical diagnosis of measles decreased from 74% to 1% as the incidence of measles decreased from 171 per 100,000 per year in the population to less than 1.3 per 100,000. The low positive predictive value of the clinical case definition in settings of low incidence demonstrates that serological confirmation is essential to ensure an accurate diagnosis of measles when measles is rare.

Currently, with the elimination of measles, even the predictive value of a positive serologic test is also very poor. **False positive IgM results are not uncommon:**

- In the *State of Alaska Public Health Bulletin No. 26* (11/16/1994) the State Laboratory employed a widely used commercial test kit approved by the Food and Drug Administration for measles IgM testing. Of the 16 IgM positive cases, only eight (50%) of the cases were confirmed at the CDC Laboratories, which used a methodology developed in house.

- A number of different viruses, including measles and rubella viruses, parvovirus B19, enterovirus, and adenovirus can give clinical presentations similar to measles; therefore laboratory confirmation is essential. In addition, it has been shown that reactivation of IgM responses to multiple viruses (including measles and rubella viruses and parvovirus B19) can occur in response to infection by one of the viruses (Table).

Table: Possible Causes of False Positives for Measles

False positive IgM results for measles may be due to:	Suspect a false positive Measles IgM test when:
- Presence of rheumatoid factor - Another rash illness: parvovirus 19, enterovirus and more	- Subject adequately immunized - No secondary cases - Case does not meet clinical case definition IgG result is positive within 7 days of rash onset

Positive rubeola test results lead to extensive and expensive epidemiologic investigations and public health control measures. Better laboratory tests are needed to reduce the number of unnecessary investigations.

Measles virus is present in urine, nasopharyngeal aspirates, heparinized blood or throat swabs. Specimens for PCR or virus

(Continued on Page 6)

Louisiana Morbidity Report
Volume 23 Number 3 May - June 2012

The Louisiana Morbidity Report is published bimonthly by the Infectious Disease Epidemiology Section of the Department of Health and Hospitals' Office of Public Health 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, MD MPH***

Editors ***Susanne Straif-Bourgeois, PhD MPH***
Theresa Sokol, MPH
Rosemarie Robertson, BS MT(C) CNMT

Vibrio: Not Just A Foodborne Illness – Louisiana, 2011

Erin Delaune, MPH

Vibrios are bacteria naturally found in the Gulf of Mexico and other salty, or brackish bodies of water. Higher numbers of Vibrio bacteria are found in the summer months when the water temperature is warmer; in the southern part of the United States that can include the months March to November. Many people know that Vibrio bacteria can cause gastrointestinal illness associated with consumption of undercooked or raw seafood, but what people may not know is that Vibrio bacteria also cause wound infections.

People can get wound infections by either having a pre-existing wound, sore or scratch exposed to salt water, or by sustaining a wound while being exposed to salt water. A Vibrio wound infection can develop between three to 48 hours after exposure. Vibrio wound infections typically start with rapid swelling, pain and reddening of the skin around the wound. Some people experience fever, chills, nausea, stomach pain, vomiting, diarrhea, or fluid accumulation in the legs. In severe cases, Vibrio wound infections can lead to large blood-filled blisters, a blood stream infection, a rapid drop in blood pressure and even death.

Thirty-five percent of all Vibrio infections reported in Louisiana in 2011 were wound infections. The majority of the wound infections reported were caused by *Vibrio vulnificus*. *V. vulnificus* causes the most severe infections among the Vibrio species; the death rate for *V. vulnificus* wound infections in Louisiana between 1988 and 2010 was 16.7%. Wound infections caused by V. *parahaemolyticus, V. alginolyticus* and *V. cholerae* non-O1 were also reported. Infections from these Vibrios are often less severe. However, wound infections with all types of Vibrio bacteria have resulted in skin grafts and limb amputations in severe cases.

In Louisiana, the majority of the wound cases in 2011 occurred between June and September, but a few cases were also reported in January, February and November. This indicates that a person can get a Vibrio wound infection any month of the year. In 2011, over 94% of the Vibrio wound infections in Louisiana were seen in men between the ages of 25 and 75 years. The majority of wound infections in 2011 were in people who reported sustaining a wound by accident while fishing or crabbing. Another large percentage of the people with wound infections reported being bit, stung or poked by an animal while fishing or crabbing. People can not only be exposed to Vibrio bacteria while they are fishing or crabbing, but also while they are playing in the water at the beach, or while surf fishing (Table).

Table: Percent of Vibrio Wound Infections by Exposure - Louisiana, 2011

Exposure	Percent of Cases
Fishing or crabbing	
sustained a wound	41
bit or stung	18
pre-existing wound	6
Beachgoer and surf fishermen	
sustained a wound	6
bit or stung	18
pre-existing wound	0

While anyone can develop a Vibrio wound infection, people with certain medical conditions (liver disease such as liver failure, poorly controlled diabetes, cancer or chemotherapy, kidney failure, HIV/AIDS, iron overload disease, or an otherwise weakened immune system) are at a much higher risk for developing a serious infection. Receiving certain treatments or being on certain medications (chemotherapy, radiation and long term use of systemic steroids such as prednisone) can also put you at risk for serious infections.

There are simple steps one can take to prevent Vibrio wound infections. People with underlying medical conditions including those listed above, should avoid exposing wounds to seawater by refraining from going to the beach or fishing until the wound is completely healed. If this cannot be done, cover wounds completely to protect them from seawater exposure. Take care to avoid puncture wounds, scrapes or cuts while at the beach, or while fishing or crabbing. Even the smallest cut, scratch or wound can become infected, especially in those with a compromised immune system or underlying medical condition.

Those who suspect having a Vibrio wound infection should seek medical attention immediately. Vibrio wound infections can progress rapidly and, if not treated properly, can lead to serious complications and death.

For more information, contact Erin Delaune at (504) 568-8316 or email to erin.delaune@la.gov.

Health Care Associated Infections (HAI) Standardized Infection Ratio (SIR) Report – U. S. and Louisiana, January-December 2010*

The National Healthcare Safety Network (NHSN) is a public health surveillance system that the Centers for Disease Control and Prevention (CDC) maintains and supports as a mainstay of its health care associated infection (HAI) prevention program. Participation in NHSN is a state-mandated requirement for healthcare facilities in an increasing number of states, but not in Louisiana.

Before 2011, reporting of HAI to NHSN was strictly voluntary. The benefit from reporting was access to a state of the art reporting tool that would generate essential statistics on HAI in the facility and allow comparisons with other facilities, thus providing guidance to the infection prevention program on potential areas of improvement. Hospitals that did not participate had no good benchmark to evaluate how they stood on their infection control performance. Out of some 120 acute care facilities, only ten were reporting their performance to NHSN. These reports were held in strict confidentiality; even the names of the facilities involved were not revealed by the CDC. Thanks to these voluntary reporters, NHSN was able to get a picture of HAI surveillance throughout the nation. These hospitals have to be commended for their significant contribution to HAI prevention. However, this picture was probably not representative of the whole nation since the hospitals with the most proficient infection control programs were more likely to report their data.

As of January 2011, hospitals participating in the Centers for Medicare and Medicaid Services' (CMS) Hospital Inpatient Quality Reporting Program are required to use NHSN to report central line-associated bloodstream infections (CLABSIs) among adult, pediatric and neonatal intensive care unit (NICU) patients. The CLABSI data reported via NHSN to CMS will be used to qualify hospitals for their annual payment update and for public reporting (starting January 2012) at website http://www.hospitalcompare.hhs.gov.

(Continued on Page 4)

**Excerpted from theCenters for Disease Control & Prevention (CDC) Report http://www.cdc.gov/hai/national-sir-jan-dec-2010/background.html*

In January 2012, similar reporting on Surgical Site Infections (SSI) became mandatory for qualified hospitals. These mandates, coupled with the use of NHSN to comply with requirements by CMS, has led to a roughly 50% increase in the number of facilities reporting to NHSN between 2009 and the end of 2010. Some facilities are also reporting data on catheter-associated urinary tract infections (CAUTIs). Data may be reported for all patient care areas, or by major groupings of patient care areas (e.g., critical care areas, ward areas, NICUs). More reporting requirements are expected in the future.

The main indicator used to report data is the standardized incidence ratios (SIRs). The CDC has data from a large number of hospital HAI surveillance systems from which they were able to calculate the mean, variance, standard deviation and percentiles for a large number of HAI (by HAI category SSI, BSI, UTI, VAP and others), by risk factors, by type of surgery for SSI, by type of intravascular lines for BSI, and others. (Table 1).

Table 1: How a SIR Is Calculated For a CLABSI Occurring in Several ICU Locations - CDC - January 2006 - December 2008

Type of ICU	Number of Central-Line Days	Observed Number of CLABSI	Observed CLABSI Rate / 1,000 Line-Days [1]	Referent NHSN Rate / 1,000 Central Line-days	Expected Number of CLABSIs [2]
Medical Cardiac	380	2	5.26	2.0	0.76
Medical	257	1	3.89	2.6	0.67
Medical Surgical	627	3	4.78	1.5	0.94
Neuro Surgical	712	2	2.81	2.5	1.78
Total	1976	8		---	4.15
SIR [3]			SIR = 8 / 4.15 = 1.93		

[1] *CLABSI rate = Observed number of CLABSI divided by the number of central line-days multiplied by 1,000*

[2] *Expected number of CLABSI = number of central line-days multiplies by the referent NHSN rate per1,000 central line-days*

[3] *SIR = Total of observed CLABSI divided by the number of expected CLABSIs.*

The data used for the expected rate from the time period (called the referent period) was also used in previous SIR reports. For the referent period, NHSN data had shown that CLABSI rates differed by types of ICUs, ranging from 0.67 per1,000 line-days in medical ICUs to 1.78 per 1,000 line-days in neuro-surgical ICUs. For the example hospital, Observed/Expected = 8 / 4.15 = 1.93. This is the standardized incidence ratio. This hospital has 1.93 times as many CLABSIs as predicted by the NHSN rates. From there, it is possible to calculate confidence interval and the probability of observing such a result due to chance alone.

The CDC report lists the results obtained by all the U.S. States for CLABSIs; results from Louisiana are presented against those for the entire nation (Table 2).

The CDC report also presents the number of reports for SSIs and CAUTIs (Catheter Associated Urinary tract Infections), but the actual SIRs only will be presented next year.

Comments:

- In Louisiana there is no state-mandated reporting. Reporting is done to meet CMS requirements.

- There is no validation system; this is a major problem. This means that hospitals are reporting their HAI following guidelines established by NHSN, but there is no outside validation system to assess the level of comprehensiveness and of quality of the facility surveillance system. A facility that would have a poor surveillance system may miss HAIs and end up with low SIRs. On the other hand, a facility with a very efficient surveillance system may report all their HAIs and end up with a high SIR compared with a less efficient facility. The absence of a validation system casts doubt about the reliability of the data presented and may end up misleading the public, steering them toward a less able facility.

Table 2: CLABSI United States and Louisiana, 2009-2010

		LA.	U.S.
2009 CLABSI			
Number of facilities reporting*		10	1,695
Percentage of facilities reporting		8.3%	27.6%
Percentage of data submitted by reporting facilities		85%	82%
Numbers by Location	ICU	19	2,788
	Wards	32	2,350
	NICU	5	355
	Total	56	5,493
2010 CLABSI			
Number of facilities reporting**		31	2,403
Percentage of facilities reporting		25.8%	39.1%
Percentage of data submitted by reporting facilities		52.5%	76.4%
Numbers by Location	ICU	43	3,760
	Wards	40	4,615
	NICU	10	529
	Total	93	8,904
ICU	Number of infections reported	35	7,206
	Number of infections expected	58	11,020
	SIR	0.60	0.65
	Lower confidence interval	0.42	0.64
	Higher confidence interval	0.83	0.67
Wards	Number of infections reported	34	5,241
	Number of infections expected	35	7,200
	SIR	0.95	0.72
	Lower confidence interval	0.66	0.71
	Higher confidence interval	1.33	0.75
NICU	Number of infections reported	18	1,365
	Number of infections expected	15	1,964
	SIR	1.18	0.69
	Lower confidence interval	0.69	0.66
	Higher confidence interval	1.86	0.73
All Locations	Number of infections reported	87	13,812
	Number of infections expected	109	20,184
	SIR	0.79	0.68
	Lower confidence interval	0.64	0.67
	Higher confidence interval	0.98	0.69

** Only 16 states have validation*

*** Up to 21 states have validation*

- The total number of facilities in the state was listed as 228 in Louisiana, however, facilities expected to have a HAI surveillance system is more realistically about 120. The percentage of facilities reporting was adjusted accordingly.

- The number of facilities reporting CLABSI nearly tripled from 2009 to 2010; however, the proportion of facilities reporting in Louisiana (25.8%) is lower than the U.S. (39.1%). Louisiana is among the states with the lowest reporting proportions.

- The 2010 SIR for CLABSI in all locations was 0.79; the CLABSI reported from Louisiana were 79% of the CDC referent period expected rate. For the entire U.S., the 2010 CLABSI SIR was 0.68 (68% of the CDC referent period expected rate). This good performance by Louisiana hospitals is encouraging; however, the lack of validation makes it less compelling. Only 12 states have SIR higher than Louisiana. (The higher the SIR, the worse the performance.)

For more information, please contact Erica Washington at (504) 568-8319 or email to erica.washington@la.gov.

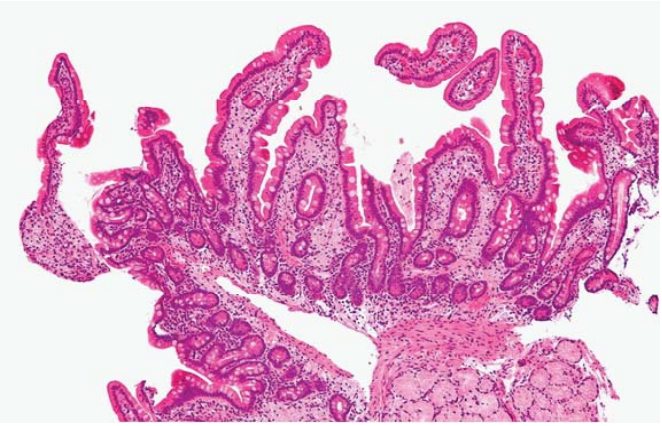
Whipple's Disease - Region 2* Louisiana, 2012

Christine Scott-Waldron, MSPH

The small intestine typically has fewer than 10^4 organisms per milliliter. Contamination of the normally sterile small intestine may result from motility disorders, immune system disorders or anatomical disturbances to the colon (large intestine). Rarely, bacterial overgrowth can cause small bowel infections and gastrointestinal disorders. An extremely uncommon multisystemic disorder known as Whipple's disease is caused by the bacteria *Tropheryma whipplei* with an approximate annual incidence of less than one per million population. In 1992, it was suggested that the bacteria be named for the Greek words *trophe* (nourishment), *eryma* (barrier because of the resulting malabsorption), and also after its first description by George Hoyt Whipple in 1907.

The bacteria primarily cause an infection of the small intestine, but can also affect the heart, lungs, central nervous system (CNS), joints, skin and eyes. The clinical presentation is variable depending on the organs involved. *T. whipplei* causes internal lesions and thickening of tissues. The villi of the small intestine change from fingerlike projections to a more clublike appearance, resulting in malabsorption of nutrients and enlargement of lymph nodes in the abdomen (Figure).

Figure: Foamy Macrophages, a Characteristic Feature of Whipple's Disease. Photo - Copyright © *2011 Nephron*



Poor absorption of fat can cause steatorrhea (an excess of fat in feces), a foul smell and incontinence. Signs and symptoms, besides steatorrhea, include chronic diarrhea, weight loss, anemia, arthralgia, abdominal lymphadenopathy and abdominal pain. Less often, symptoms include fever, fatigue, skin darkening and ocular signs. Sometimes, chronic unexplained migratory pains in large joints can occur years before any digestive tract symptoms. Among the 31% of patients with advanced stages of gastrointestinal disease, CNS manifestations are common. Neurological symptoms include dementia, confusion, memory loss and decreased level of consciousness. Even in the absence of neurological symptoms, approximately half of patients have polymerase chain reaction (PCR) positive cerebrospinal fluid before treatment, indicating infection of the CNS.

There is no evidence of person-to-person transmission. The bacteria are ubiquitous in the environment worldwide. *T. whipplei* has been detected by PCR among sewage plant outflows in Germany and Austria with the highest prevalence in waste waters originating from rural communities. A recent study in a rural African country identified *T. whipplei* in the stool among 31% of healthy subjects.

The evidence of *T. whipplei* in human stools signifies that it could be considered as a commensal bacterium acquired through fecal-oral transmission. Asymptomatic carriers of the bacteria indicate that not all people develop disease upon exposure to the soil-living bacteria. A review of 664 patients in the U.S. shows a higher prevalence (86% of all cases) of Whipple's disease among men, 98% Caucasian, with a median age of 49 years at diagnosis. Among these patients, 35% were farmers and 66% had occupational exposure to soil or animals. It has been theorized that there is an underlying genetic predisposition that leads to the development of the disease, although no causative risk factor has been identified.

A biopsy is performed during duodenal endoscopy to collect a sample of tissue from the lining of the small intestine for examination using periodic acid-Schiff (PAS) staining. PAS is a magenta-colored stain that reveals the organisms among non-acid fast macrophage inclusions when viewed under a microscope. PCR testing is used to confirm diagnosis by detecting the presence of DNA in blood, vitreous fluid, heart valves or cerebrospinal fluid. Treatment involves intravenous antibiotics for two weeks, followed by daily oral antibiotic treatment for one to two years. After appropriate treatment therapy, most symptoms resolve in one month. However, relapse is common and can lead to serious neurological symptoms. When unrecognized and untreated, the disease can be fatal.

Case 1 is an African-American male 45 to 50 years old who presented to a Region 2 hospital in late February 2012. He was admitted with unexplained weight loss, shortness of breath and lower gastrointestinal bleed. The case had a history of an approximately 100-pound weight loss over an unknown time period despite reported good appetite and routine past medical history. He was discharged with diagnosis for pulmonary embolism, anemia, mesenteric lymphadenopathy and a history of deep vein thrombosis. A few weeks later, he was scheduled for an outpatient colonoscopy to evaluate for malignancy. He was found to have a supratherapeutic INR (blood clot time) and small bowel infiltrative process, and was directly admitted to a Region 2 hospital. The case had duodenum and ileum biopsies performed during colonoscopy that showed histologic findings characterized by villous blunting and expansion of lamina propria with numerous macrophages with PAS positive-diastase resistant granules consistent with Whipple's disease.

Both biopsy samples were also positive for *T. whipplei* from PCR testing. The case went on to have an excisional lymphnode biopsy, which was also PAS positive. The case was treated with iron supplementation, a total of 14-day antibiotic and will continue therapy for approximately one year.

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

* *Map of Regions on Page 7*

Announcements

Updates: Infectious Disease Epidemiology (IDES) Webpages
http://www.infectiousdisease.dhh.louisiana.gov

ANNUAL REPORTS: Lyme Disease; Malaria; Mumps; Reportable Condition Summary-Past Three Years; Tularemia; West Nile Encephalitis (WNV-NID)

EPIDEMIOLOGY MANUAL: Case Definitions; Cyclosporiasis Form; Foodborne Outbreak Investigation
HAI: Importing Procedure Data; Spring, 2012 Newsletter
INFLUENZA: Weekly Report
VETERINARY: Common Veterinary Infections, First Quarter, 2012- Canine, Equine and Feline; Rabies Bite Report Form

(Fungal Endophthalmitis ... Continued from Page 1)

reported in November 2011. Of these fungal eye infections, 20 cases have been associated with use of Brilliant Blue-G (BBG) dye, which is used in some types of retinal surgery, and 13 cases were linked to intra-ocular injection of the steroid triamcinolone. Fifteen cases are considered probable cases, meaning that these patients had ophthalmologist-diagnosed fungal endophthalmitis after undergoing an invasive ocular procedure occurring on or after August 23, 2011. (August 23, 2011 is the production date of the contaminated lot of BBG). Eighteen of the cases are confirmed cases - these patients met the criteria of a probable case and also have positive fungal identification from the eye by culture, histopathology or gene sequencing.

All BBG and triamcinolone products reportedly originated from one compounding pharmacy, Franck's Compounding Lab in Ocala, Florida. Two different molds that are common in the environment have been associated with these products: *Fusarium incarnatum-equiseti* species complex, which has been linked to BBG, and *Bipolaris hawaiiensis*, which has been linked to triamcinolone. For the 30 patients for whom data is available, 23 have experienced some degree of vision loss and a majority of them have required additional ophthalmologic surgery.

Four of the 33 fungal endophthalmitis cases originated in Louisiana. All Louisiana cases occurred following retinal surgeries called vitrectomies, all involved the use of BBG and all of the cases' surgeries were performed at the same surgical center over a period from November 17 to November 28, 2011. As part of the national investigation, data were collected on these cases and a sample of non-cases (controls) from the surgical center of interest.

Methods:

A standardized report form was used for chart review for cases and controls. It included demographic information of the patient, medical/surgical history, pre-operative demographics, operative details, follow-up visit information (including medications given and visual acuity) and current patient status. Details also were obtained about BBG use during surgery.

Information was gathered on the four case patients and 12 control patients. Control patients were randomly selected from all patients undergoing vitrectomy within one week of each case patient's surgery at the surgical center from which the cases originated.

Results:

Of the cases, 100% (4/4) underwent vitrectomies involving the use of BBG, whereas only 41.7% of controls (5/12) underwent vitrectomies involving the use of BBG; the p-value was 0.09 for Fishers exact test. Cases were more likely than controls to have been female and to have a history of diabetes, though these associations were not statistically significant. There was not a significant difference in ages between cases and controls. Of the four cases examined, two are considered probable cases and the other two are confirmed cases (Table).

Table: Characteristics of Cases and Controls – Fungal Endophthalmitis Louisiana, 2011

	Case	Control			
	N (%)	N (%)	OR	CI	P-value
Gender					
• **Female**	3 (75%)	2(16.7%)	15.0	(0.99,228.9)	0.06
• **Male**	1(25%)	10(83.3%)	Reference		
Diabetes					
• **Diabetes**	3 (75%)	3 (25%)	9.0	(0.66,122.79)	0.11
• **No diabetes**	1(25%)	9 (75%)	Reference		

Discussion:

A limited examination of four cases and 12 controls undergoing vitrectomy during November 2011 support the association of BBG use with fungal endophthalmitis. Additionally, limited evidence suggests that cases were more likely to have been female and diabetic than non-cases. However, the small number of cases available for analysis markedly limit the strength of these associations. Since retinopathy is a common complication of diabetes, diabetes may be acting as a confounding factor with fungal endophthalmitis because diabetics might be more likely to undergo retinal surgery than non-diabetics. Even so, diabetes also produces a state of relative immunosuppression in affected individuals; it is possible that diabetics are more likely to be affected by this outbreak.

The CDC currently recommends that clinicians avoid use of "sterile" compounded products from Franck's Compounding Lab and that clinicians and patients maintain a high index of suspicion for fungal eye infections. As of May 7, 2012, the Louisiana State Board of Pharmacy has issued a cease and desist order to Franck's Compounding Lab, to prevent shipment of Franck's products into the state. At this point, many details of this multi-state outbreak remain unknown, and investigations remain in progress nationwide. As more information becomes available from other states, the cause of the contamination and extent of the morbidity will be better described.

For references or more information. please contact Dr. Straif-Bourgeois at (504) 568-8292, or by email to *susanne.straif-bourgeois@la.gov*.

(The Case of Measles ... Continued from Page 2)

culture should be obtained from every person with a clinically suspected case of measles and should be shipped to the state public health laboratory or the CDC, at the direction of the state health department. Clinical specimens for viral identification should be collected at the same time as samples taken for serologic testing. Because the virus is more likely to be isolated when the specimens are collected within three days of rash onset, collection of specimens for virus isolation should not be delayed until serologic confirmation is obtained. Clinical specimens should be obtained within seven days and not more than ten days after rash onset. A detailed protocol for collection of specimens for viral isolation is available on the CDC website.

1 - Throat swab - Vigorously swab tonsillar areas and posterior nasopharynx with a viral culturette. Use tongue blade to depress tongue to pre-vent contamination of swab with saliva. Place swab into a Viral Transport Medium (VTM).

2 - Urine specimen - Collect 10 to 40 ml of urine in a **sterile** 50 ml centrifuge tube or a urine specimen container. First-morning voided specimens are ideal, but any urine collection is adequate. Have patient void directly into container, collecting from the first part of the urine stream, if possible.

3 - Nasal or nasopharyngeal swab - Use sterile swabs to swab the nasal passage or the naso-pharynx with either a viral culture swab or culturette. Do not use special (e.g., anaerobic) media. Place swab into VTM.

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

Save The Date! Field Epidemiology Training

New Orleans - September 25, 2012; Lafayette - October 2, 2012
Monroe - October 11, 2012

For more information please go to webpage *http://new.dhh.louisiana.gov/index.cfm/page/1297*

Table: Communicable Disease Surveillance, Incidence by Region and Time Period, March-April, 2012

DISEASE		HEALTH REGION 1	2	3	4	5	6	7	8	9	TIME PERIOD Mar-Apr 2012	Mar-Apr 2011	Jan-Dec Cum 2012	Jan-Dec Cum 2011	Jan-Dec % Chg*
Vaccine-preventable															
Hepatitis B	Cases	0	0	1	2	0	0	0	0	3	6	6	14	20	-30.0
	Rate[1]	0	0	0.3	0.4	0	0	0	0	0.8	0.1	0.1	0.3	0.5	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	2	0	0	0	1	0	0	4	5	6	13	-53.8
Sexually-transmitted															
HIV/AIDS	Cases[2]	29	20	5	5	1	5	6	5	7	83	208	276	427	-35.4
	Rate[1]	2.9	3.5	1.3	0.9	0.4	1.7	1.2	1.4	1.6	1.9	4.8	6.3	9.8	NA*
Chlamydia	Cases[3]	1,346	82	48	146.0	84	66	204	104	79	2,159	4,100	2,275	7,228	-68.5
	Rate[1]	161.1	12.4	11.8	25.0	28.7	21.3	37.5	29.2	14.6	47.6	90.4	50.2	159.4	NA*
Gonorrhea	Cases[3]	410	15	6	53	14	8	86	41	30	663	1,281	713	2,204	-67.6
	Rate[1]	49.1	2.3	1.5	9.1	4.8	2.6	15.8	11.5	5.5	14.6	28.3	15.7	48.6	NA*
Syphilis (P&S)	Cases[3]	4	2	3	7	4	4	22	0	0	46	75	79	115	-31.3
	Rate[1]	0.5	0.3	0.7	1.2	1.4	1.3	4.0	0.0	0.0	1.0	1.7	1.7	2.5	NA*
Enteric															
Campylobacter	Cases	2	2	0	2	1	1	1	1	2	12	35	51	64	-20.3
Hepatitis A	Cases	0	0	0	0	0	0	0	0	0	0	0	0	1	NA*
	Rate[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Salmonella	Cases	3	14	22	20	7	6	6	5	18	101	141	206	207	NA*
	Rate[1]	0.3	2.5	5.8	3.9	2.6	2.0	1.2	1.4	4.7	2.3	3.3	4.8	4.8	NA*
Shigella	Cases	0	1	4	2	0	1	0	0	2	10	58	50	86	-41.9
	Rate[1]	0	0.2	1.1	0.4	0	0.3	0	0	0.5	0.2	1.3	1.2	2.0	NA*
Vibrio cholera	Cases	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Vibrio, other	Cases	0	0	5	3	1	1	0	0	2	12	8	15	10	33.3
Other															
H. influenzae (other)		0	0	0	2	0	0	0	1	0	3	9	18	26	-30.8
N. Meningitidis		1	0	0	0	0	0	0	0	0	1	3	2	6	NA*

[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.

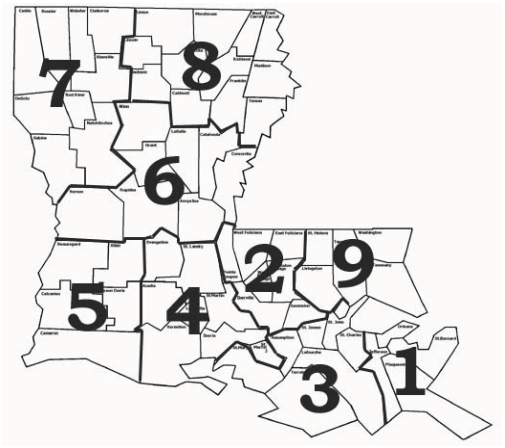
Table 2. Diseases of Low Frequency, January-December, 2012

Disease	Total to Date
Legionellosis	3
Lyme Disease	0
Malaria	1
Rabies, animal	0
Varicella	25

Table 3. Animal Rabies, March-April, 2012

Parish	No. Cases	Species
	0	

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.

- Anthrax
- Avian Influenza
- Botulism
- Brucellosis
- Cholera
- Diphtheria
- *Haemophilus influenzae* (invasive disease)
- Influenza-associated Mortality
- Measles (rubeola)
- Neisseria meningitidis (invasive disease)
- Plague
- Poliomyelitis, paralytic
- Q Fever (*Coxiella burnetii)*
- Rabies (animal and human)
- Rubella (congenital syndrome)
- Rubella (German measles)
- Severe Acute Respiratory Syndrome-associated Coronavirus (SARS-CoV)
- Smallpox
- *Staphylococcus Aureus*, Vancomycin Intermediate or Resistant (VISA/VRSA)
- Tularemia
- 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.

- Arthropod-Borne Neuroinvasive Disease and other infections (including West Nile, St. Louis, California, Eastern Equine, Western Equine and others)
- Aseptic meningitis
- Chancroid[1]
- *Escherichia coli*, Shig-toxin producing (STEC), including *E. coli* 0157:H7
- Hantavirus 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
- Pertussis
- Salmonellosis
- Shigellosis
- Syphilis[1]
- Tetanus
- Tuberculosis[2]
- 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]
- Blastomycosis
- Campylobacteriosis
- Chlamydial infection[1]
- Coccidioidomycosis
- Cryptococcosis
- Cryptosporidiosis
- Cyclosporiasis
- Dengue
- Ehrlichiosis
- Enterococcus, Vancomycin Resistant [(VRE), invasive disease]
- Giardia
- Gonorrhea[1]
- Hansen Disease (leprosy)
- Hepatitis B (carriage, other than in pregnancy)
- Hepatitis C (acute illness)
- Hepatitis C (past or present infection)
- Human Immunodeficiency Virus [(HIV syndrome infection)][2]
- Listeria
- Lyme Disease
- Lymphogranuloma Venereum[1]
- Psittacosis
- Rocky Mountain Spotted Fever (RMSF)
- *Staphylococcus aureus*, Methicillin/Oxacillin Resistant[(MRSA), invasive infection]
- Staphylococcal Toxic Shock Syndrom
- Streptococcal disease, Group A (invasive disease)
- Streptococcal disease, Group B (invasive disease)
- Streptococcal Toxic Shock Syndrome
- *Streptococcus pneumoniae*, penicillin resistant [DRSP]), invasive infection]
- *Streptococcus pneumoniae* (invasive infection in children < 5 years of age)
- Transmissible Spongiform Encephalopathies
- Trichinosis
- Varicella (chickenpox)
- Vibrio Infections (other than cholera)

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]
- 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 . Seven thousand copies of this public document were published in this first printing at a cost of . The total cost of all printings of this document, including reprints is . This document was published by 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. Printing of this material was purchased in accordance with the provisions of Title 43 of Louisiana Revised Statues.