

Louisiana Morbidity Report



BOBBY JINDAL
GOVERNOR

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

KATHY KLIEBERT
SECRETARY

January - February 2014

Volume 25, Number 1

Novel Chronic *Francisella Novicida* Infections Among Patients at a Long Term Residential Facility - Louisiana - January, 2014

Julie Hand, M.S.P.H.; Gary Balsamo, D.V.M., M.P.H.&T.M.; Christine Scott-Waldron, M.S.P.H.;
Jenna Iberg Johnson, M.S.P.H.; Angie Orellana, M.P.H.

In May 2011, the Department of Health and Hospitals' (DHH) Infectious Disease Epidemiology Section (IDEpi) was notified of two cases of bacteremia at a long term residential facility in the state*. Blood culture results presumptively identified *Francisella tularensis* as the causative agent. *F. tularensis* causes tularemia and is currently classified as a potential bioterrorism agent by the Centers for Disease Control and Prevention (CDC). Samples were sent to DHH's Public Health (PH) Laboratory for confirmatory testing and were positive on polymerase chain reaction (PCR) assay, but negative by direct fluorescent antibody (DFA). These conflicting results indicate the infections could have been caused by *F. novicida* which is closely related to *F. tularensis*, and considered a subspecies by some microbiologists. *F. novicida* is rarely associated with human illness despite the close genetic relationship to *F. tularensis*. Samples were forwarded to the CDC Bacterial Diseases Branch, Division of Vector-Borne diseases (DVBD) for further analysis. *F. novicida* was confirmed; through pulse field gel electrophoresis (PFGE), it was found that the two isolates were genetically identical strains.

An investigation was undertaken to explore possible exposures at the residential facility while active surveillance for additional cases was also initiated. During enhanced surveillance at the facility through January 2012, a third case was identified in July 2011. PFGE results showed that the third isolate differed from the

other two by only a single band. All three patients had a history of chronic underlying medical conditions and multiple medical assessments making it difficult to determine exact dates of illness onset. In the month prior to diagnosis, the three patients had no contact with each other. Food sources at the facility included dining hall kitchens, vending area and a café. There was no common exposure from these food items identified as unique to these three patients compared to the other patients. None of the three patients worked outside in the month prior to infection onset. Environmental samples of the water supply and ice machines were obtained and analyzed at CDC DVBD. Swabs from one set of ice machines yielded evidence of *F. novicida* by PCR. Although the ultimate source of contamination could not be identified, after an extensive review of medical records, interviews with patients and staff at the facility, ice appeared to be the likely vehicle of transmission.

From July 2011 to May 2013, only one other case had been identified. IDEpi once again was notified by a hospital laboratory technician who called to report a blood culture was presumptive positive *F. tularensis* by a reference laboratory. The sample was slow to grow on blood agar and rapid on chocolate agar. A sample was sent to the DHH PH Laboratory for confirmatory testing and was positive on PCR but negative by DFA. On follow-up, IDEpi found the patient had a history of underlying medical conditions, although not the same chronic conditions as the previous patients. The patient presented to an emergency department with a fever, lethargy, and a necrotic, gangrenous and foul smelling wound with vascular type calcifications and cellulitis. The wound had started almost two months prior to the septicemia, and was treated by a physician with topical fungicide and antibiotic. The patient required limb amputation; after months in rehabilitative care, the patient recovered. There were no bony changes to suggest osteomyelitis. No single medical procedure, medication, or laboratory was common to all four patients. This patient did not have any exposure in common with the previously documented three patients; he did work outdoors and live within the same region as the other patients, although reported his wound had no exposure to water or soil.

To date, all four patients were African-American males with an age range of 41 to 60 years. Three of four patients recovered.

(continued on page 6)

* *Outbreak of Francisella novicida Infections Among Occupants at a Long-Term Residential Facility -Louisiana, April-July, 2011 - Louisiana Morbidity Report, January-February 2012, Vol 23 #1*

Contents

Novel Chronic <i>Francisella Novicida</i> Infection Among Patients at a Long Term Residential Facility - Louisiana - January, 20141
Influenza Information for Curious Minds2
CRE Surveillance - Louisiana, 20143
West Nile Infections - Louisiana, 20133
Natural Gas Release Incidents - Louisiana, 2010-20124
Announcements - Updates - IDEpi Webpages; Upcoming5

Influenza Information For Curious Minds

How do we come up with these statewide estimates of influenza cases, hospitalizations and deaths?

Two documents from the Centers for Disease Control and Prevention (CDC)*, summarize CDC data and have an overview of the overall method for the Louisiana extrapolation.

Estimated Influenza Illnesses, Hospitalizations and Deaths in Louisiana

The CDC has done several studies over the years to estimate the disease burden from influenza, which includes cases in the population, cases getting medical care, hospitalizations and deaths. These studies are useful to understand the importance of influenza and justify the recurrent resources spent every year on influenza prevention, which is primarily for immunization.

1-CDC Estimates

The most important references on the CDC estimates are:

1) Kostova D, Reed C, Finelli L, et al. Influenza illness and hospitalizations averted by influenza vaccination in the United States, 2005-2011. *PLoS One* 2013;8:e66312.

2) CDC. Estimated Influenza Illnesses and Hospitalizations Averted by Influenza Vaccination - United States, 2012-13 Influenza Season. *MMWR* Vol62, No39 9971000; 12/13/2013

3) CDC. Estimates of deaths associated with seasonal influenza USA 1976-2007. *MMWR* Vol 59, No 33, 8/27/2010, 1057-1062

4) CDC Website: Estimating Seasonal Influenza-Associated Deaths in the United States: CDC Study Confirms Variability of Flu; Questions and Answers, http://www.cdc.gov/flu/about/disease/us_flu-related_deaths.htm.

A short summary of the numbers estimated by these scientific peer-reviewed articles is presented in the table.

Table: Estimated Numbers of Cases, Hospitalizations and Deaths Louisiana and the United States, 2012

	USA CDC	LA
Total Population 2012	311,000,000	4,575,000
Estimated Cases, 2012-2013 Season	31,817,000	454,529
Confidence interval: Low	20,631,000	294,729
Confidence interval: High	46,371,000	662,443
Based on the estimated number of hospitalizations and age-specific case-hospitalization ratios for persons aged <65 years, and using a case-hospitalization ratio of 11:1 for persons aged ≥65 years (1)		
Estimated Medically Attended Cases, 2012-2013 Season	14,431,000	206,157
Confidence interval: Low	9,243,000	132,043
Confidence interval: High	22,102,000	315,743
Based on the estimated number of cases and outpatient medically attended ratios by age group (2)		
Estimated Hospitalization, 2012-2013 Season	381,500	5,450
Confidence interval: Low	251,300	3,590
Confidence interval: High	568,700	8,124
Rate per 100,000 population/season 42.0 last year		
Estimated using FluSurv-NET hospitalization rates adjusted for underreporting. The underreporting adjustment multiplier was calculated during the 2009-10 pandemic season and was 2.74 across age categories (1).		
Estimated Deaths, 1976-2007 Seasons	23,607	337
Confidence interval: Low	3,349	48
Confidence interval: High	48,614	694
Rate per 100,000 population/season 1.4 to 16.7		

Note: CDC Estimates were rounded to the 1,000 for clarity

For each estimate, the CDC presented the confidence interval. The lower number gives an idea of what to expect in a low season, the higher number for a very active season.

In the column “USA CDC” estimates for the entire United States are presented. In the column “LA”, the extrapolation to Louisiana is displayed. This year, being very intense, one would expect elevated numbers close to the higher end of the confidence interval.

2-Progression in Louisiana

Based on the data collected by the Department of Health and Hospitals’ Office of Public Health (OPH) influenza surveillance, it is possible to prepare an estimate by week for number of cases, hospitalizations and deaths.

The Influenza-Like Illness (ILI) surveillance collects ILI data on 20,000 to 30,000 ambulatory care patients per week. The proportion of confirmed influenza cases among these ILI is estimated from the confirmation proportion observed by the OPH laboratory. Extrapolating to the total ambulatory care of the entire state is possible by using the National Center for Health Statistics (NCHS) estimate of patient visits at physicians, hospital out-patient clinics, urgent care and emergency departments (220,000 visits per week).

Using the rate of admission for ILI patients calculated by the Louisiana Early Event Detection System (LEEDS), and CDC data from states with enhanced influenza surveillance, the number of hospitalizations can be estimated.

Deaths were estimated by the CDC using several approaches (population based data, review of mortality from several conditions such as pneumonia and influenza [P&I] causes and respiratory and circulatory [R&C] causes).

Applying these estimates and using the intensity of ILI morbidity and confirmed influenza, it is possible to create a spreadsheet displaying the estimated number of cases, hospitalizations and deaths from the onset of the season.

From week 40 of 2013 (beginning of October) until week one of 2014, the estimates are 360,000 new cases, 3,000 hospitalizations and 350 deaths.

* *Estimates of Deaths Associated with Seasonal Influenza - United States, 1976-2007; Morbidity and Mortality Weekly Report (MMWR); August 27, 2010 / 59(33);1057-1062*

Estimated Influenza Illnesses and Hospitalizations Averted by Influenza Vaccination - United States, 2012-13 Influenza Season; Morbidity and Mortality Weekly Report (MMWR); December 13, 2013 / 62(49);997-1000

Louisiana Morbidity Report
Volume 25, Number 1 January - February, 2014

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.

CRE Surveillance Louisiana, 2014

Carbapenem Resistant *Enterobacteriaceae* (CRE) have become a health care facility acquired infection (HAI) of major concern. *Enterobacteriaceae* represent a large family of Gram-negative bacteria that includes genera such as *Klebsiella*, *Escherichia*, *Shigella* and *Salmonella*.

Carbapenems are a class of β -lactam antibiotics with a broad spectrum of antibacterial activity and are one of the antibiotics of last resort for many bacterial infections, such as *E. coli* and *Klebsiella pneumoniae*. Carbapenems have a structure that renders them highly resistant to most β -lactamases.

Imipenem, an intravenous β -lactam antibiotic developed in 1980, belongs to the subgroup of carbapenems. Some *Enterobacteriaceae* such as *Morganella*, *Proteus* and *Providencia* have intrinsic resistance to imipenem.

Carbapenem resistance (CR) was uncommon before 2001. This resistance is due to production of carbapenemase (special β -lactamase). A porin mutation, which is located on transferable plasmids, limits the penetration ability of carbapenems.

The first CR spread among *Klebsiella pneumoniae* with a *Klebsiella pneumoniae* carbapenemase (KPC); soon afterwards, *E. coli* and *Enterobacter* followed suit. More recently, alarm has been raised over the spread of drug resistance to carbapenem antibiotics among these coliforms, due to production of the New Delhi metallo- β -lactamase, NDM-1. These Metallo- β -lactamases (MBLs), have

become the more prevalent mechanisms for CRE. MBLs include New-Dehli (NDM), Verona integron-encoded (VIM), and imipenemase (IMP).

CR is often associated with resistance to other antibiotics to create pan-resistant strains. There are currently no new antibiotics in development to combat bacteria resistant to carbapenems; worldwide spread of the resistance gene is considered a potential nightmare scenario.

The Centers for Disease Control and Prevention (CDC) has issued recommendations regarding prevention of the spread of CRE. A summary describing epidemiology, diagnosis, treatment, prevention and control of CRE can be found at dhh.louisiana.gov/assets/oph/Center-PHCH/Center-CH/infectious-epi/EpiManual/CRESummary.pdf

The CDC has recommended regional prevention strategies depending on each state's situation (e.g. a region with no, few or common CRE). From the Department of Health and Hospitals' Infectious Disease Epidemiology's (IDEpi) antibiogram surveillance it appears that Louisiana has "few CRE". To ascertain that this is the correct assumption, a survey has been distributed to all infection preventionists in the state. There is a plan to make CRE reportable next year in Louisiana. IDEpi is requesting that healthcare facility workers fill out a reporting form (at dhh.louisiana.gov/assets/oph/Center-PHCH/Center-CH/infectious-epi/HAI/CRESurvWrkshft_Final.pdf) for cases of CRE that are hospitalized, or report CRE in IDIRIS. This reporting does not duplicate what has to be reported through NHSN.

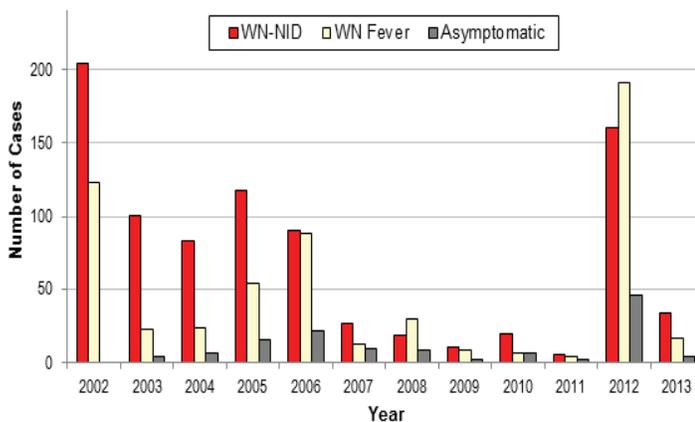
For more information, please contact IDEpi at (504) 568-8313.

West Nile Virus Infections Louisiana, 2013

Christine Scott-Waldron, MSPH

In 2013, activity in Louisiana was much lower than in 2012 for West Nile Virus (WNV), (Figure).

Figure: Number of WNV Cases - Louisiana, 2001 to 2013



WNV infections have occurred each year in Louisiana for the past 12 years. WNV infection is naturally spread from bird-to-bird by mosquito bites. Occasionally humans or other mammals are bitten by an infected mosquito and the virus enters their bloodstream. When conditions favor substantial viral amplifica-

tion within the bird-mosquito-bird transmission cycle, increasing numbers of infected mosquitoes can be generated; the risk of human infection is elevated.

There is no season for WNV although most human infections occur mid-July to late fall. Everyone should take preventive measures year-round since everyone is at risk when a mosquito can bite, whether there are cases reported in a local parish or not.

Mosquitoes require water and a blood meal for reproduction. Please go to website www.cdc.gov/westnile/prevention/index.html for measures that can help reduce mosquitoes around a home and www.cdc.gov/westnile/faq/repellent.html for information on repellants.

Although some years have a higher number of WNV reported cases, there are many challenges to predicting how, when and where the conditions combine to cause more human infections. Daily routine surveillance of mosquito populations and infection rates is the most effective surveillance system to monitor local viral transmission.

Persons of all ages are equally susceptible to infection. A majority of persons, 80 percent whom are infected, have no symptoms or may experience mild illness before fully recovering. A small proportion of persons develop West Nile Fever-18 percent presenting with febrile, influenza-like illness with abrupt onset of moderate to high fever, headache, sore throat, backache, myalgia, arthralgia, fatigue, a mild transient rash and lymphadenopathy. A minority of infected persons experience acute aseptic meningitis or encephalitis (0.2 percent below age 65 years, two percent

(continued on page 6)

Natural Gas Release Incidents - Louisiana, 2010-2012

Xiaoping Nie, Ph.D.; William “Clay” Trachtman, M.S.; Collette Stewart-Briley, M.S.P.H.; Dianne Dugas, M.S.W., M.P.H.

Natural gas is a combustible, gaseous mixture of simple hydrocarbon compounds, mostly methane, usually found in deep underground reservoirs formed by porous rock. Three segments of the natural gas industry are involved in delivering natural gas from the wellhead to the consumer: production of the gas through exploration, drilling and extraction of natural gas from wells; transmission through pipelines to distribution centers; and distribution by local utilities that deliver natural gas to the customer. Natural gas release accidents happen almost every day in Louisiana; some of the incidents may cause property damage, injuries, or even fatalities.

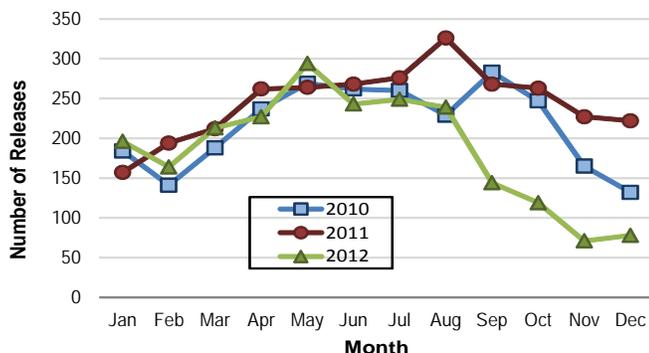
Methods

Several data sets for the natural gas events from 2010 to 2012 were provided to the Louisiana Department of Health and Hospitals(LDHH) through the courtesy of the Louisiana State Police (LSP) as Microsoft Excel spreadsheets. These spreadsheets were imported and appended into one Microsoft Access database. The frequency of natural gas events was tabulated. The data received from LSP did not indicate the “Cause of the Incident”. This information was obtained from dataset field “Initial Report Detail” and “Update to The Report Detail” to identify possible causes for an accident. In total, 9,576 natural gas related incidents were reported to the LSP between 2010 and 2012 in Louisiana. Of those, 7,772 incidents were accidental releases, which will be the focus of this review.

Results

There were 2,597 reported accidental releases of natural gas in Louisiana in 2010, which increased 13.2 percent to 2,938 in 2011, and decreased 23.9 percent to 2,237 in 2012. While the annual reports of natural gas release fluctuate, there are trends for monthly releases from 2010 to 2012 (Figure 1).

Figure 1: Number of Accidental Natural Gas Releases by Month Louisiana, January 2010 - December 2012

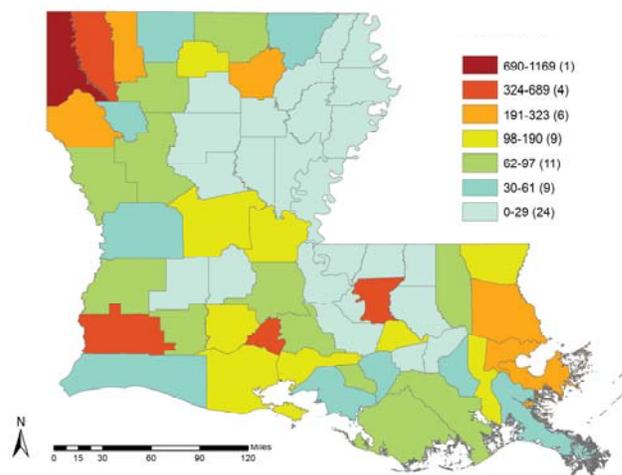


The three-year trends showed that the colder months (January, February, November, and December) had the lowest number of accidents, and the warmer months (May, June, July, and August) had

the highest number of accidents. After February, the number of incidents steadily rose until May, and remained elevated from May to August; the trends started to decline in September until reaching to the lowest levels in November and December.

From January 2010 to December 2012, Caddo Parish reported the largest number of natural gas accidents (total 1,169, 15.0 percent) in Louisiana. Other parishes reporting high numbers of natural gas accidents were East Baton Rouge (689, 8.9 percent), Calcasieu (470, 6.0 percent), Bossier (455, 5.9 percent), and Lafayette (410, 5.3 percent). The total number of accidents from these five parishes accounted for more than 40 percent of the state’s total number (3,199, 41.2 percent). There were 28 parishes that had less than 50 accidents for the period from 2010 to 2012. Among them, West Feliciana and Catahoula were the only two parishes that did not see any reported accidental natural gas release in the years reviewed (Figure 2).

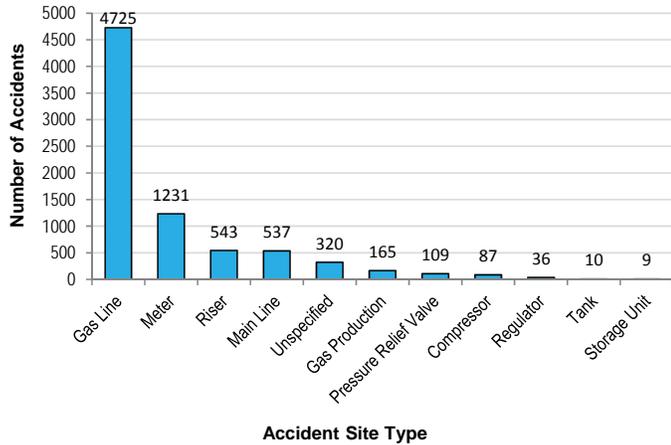
Figure 2: Distribution of Natural Gas Accidents by Parish Louisiana, 2010-2012*



* The Jenks Optimization (or ‘Natural Breaks’) Method of map classification is used to display the data. This method attempts a non-biased grouping of data values. Read more about this method at: <http://support.esri.com> (GIS Dictionary).

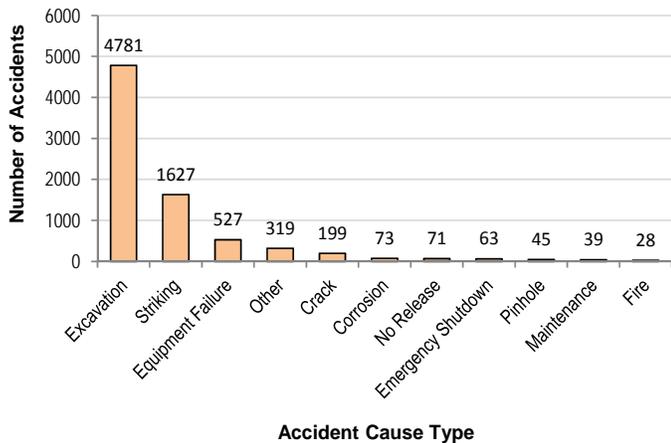
The majority of the accidental releases occur with gas lines (smaller diameter pipeline, diameter less than one inch, 4725, 60.8 percent), followed by meters (1231, 15.8 percent), risers (543, 7.0 percent), main lines (larger diameter pipeline, diameter larger than one inch, 537, 6.9 percent), gas production (165, 2.0 percent), and other types. Combining gas line and main line accidents, pipeline accidents accounted for more than two-thirds of all the reported accidents (5262, 67.7 percent). Most of these release types follow the same pattern: the accidents increased in 2010 to 2011, and then decreased in 2011 to 2012. However, accidental releases involving gas production increased steadily from 2010 to 2012 (Figure 3).

Figure 3: Number of Natural Gas Accidents by Type-Louisiana, 2010-2012



The majority (4,781, 61.5 percent) of the reported natural gas release accidents in Louisiana from 2010 to 2012 were caused by excavation. The number of natural gas release accidents caused by “striking” (vehicle running over) ranked second. Equipment failure is the third major cause of the natural gas release incidents (Figure 4).

Figure 4: Number of Natural Gas Accidents by Cause Louisiana, 2010-2012



From 2010 to 2012, there were 15 reported natural gas release accidents that involved injuries. Among these accidents, eight were the type of “striking” with a vehicle, where the injuries were associated with the car accidents rather than from the natural gas releases. Two incidents were caused by excavation, two by equipment failure, one by corrosion, one by fire, and one by other unidentified cause. No natural gas release accident in Louisiana resulted in a fatality during this time span.

Discussion

The majority (4,781, 61.5 percent) of the reported natural gas release accidents in Louisiana from 2010 to 2012 were caused by excavation, i.e. digging near existing gas line. To address this issue, the Louisiana legislature passed the Louisiana Underground Utilities and Facilities Damage Prevention Law in 1988, which was amended in 1997 and 2011, requiring excavators to dial 811 (Louisiana One Call), and wait two business days for the gas company to mark the location of its lines. Frequently, excavation

damage results from either someone excavating without first calling and waiting the standard 48-hours, or from the gas company wrongly marking the location of its lines.

Seasonal trends show fewer accidents incidents in the colder months of January, February, November and December and increased accidents in the warmer the months of May, June, July and August. While factors relating to the seasonal trend for the accidental natural gas releases are not known, they may correspond to increases in construction in warmer weather since excavation is designated as a primary cause of the events.

For future studies, more specific information regarding the natural gas pipelines (whether they belong to production companies, transmission pipeline companies, or local distribution companies) need to be collected to better understand the potential trends and risk factors in natural gas release-related emergency incidents occurring in Louisiana.

For references or more information, please call Dr. Nie at (225) 342-3279 or email to xiaoping.nie@la.gov.

Announcements

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

Annual Reports: Encephalitis-WNV; Gonorrhea; *Haemophilus Influenzae* Invasive Disease; Hepatitis A; Hepatitis B; Influenza; Leptospirosis; Listeria; Lyme Disease; Meningo-Encephalitis Due to Free Living Amebas; Outbreak Investigations; Psittacosis; Rabies; Staphylococcal Invasive Disease (MRSA); Streptococcus Group A (GAS); Three-Year Comparison 2012-2014; Tularemia; West Nile Encephalitis or Neuro-Invasive Disease (WNV-NID)

Epidemiology Manual: Blastomycosis Summary; Carbapenem-Resistant Enterobacteriaceae (CRE) Summary; CRE Form; Chemical Contaminants Risk Summary; Cryptosporidium Summary; Dengue Form (CDC); Food-borne Infections Summary; Food Risk Summary-Cancer; Hantavirus Form CDC; Legionella Form (CDC); Lyme Disease Summary; Meningococcal Invasive Disease; Mumps Summary; Pertussis Form (CDC); Respiratory Syncytial Virus (RSV) Summary; Rotavirus Summary; Rubella Summary; Salmonellosis Summary; Shigellosis Summary; Streptococcal Group A Summary; Streptococcal Group B Summary; Trichinosis Summary; Tularemia Summary; Varicella Summary

HAI: Carbapenem-Resistant Enterobacteriaceae (CRE) Form; Management of Multidrug-Resistant Organisms in Long Term Care Facilities
Influenza: Influenza Severity; Lab Form; Specimen Collection and Transport Information; Weekly Report

LEEDS: Syndromic Surveillance in Louisiana

Regional Information

Veterinary: Protocol for Shipping Specimens to the OPH Laboratory for Rabies Testing

West Nile Virus: Weekly Report; West Nile Encephalitis or Neuro-Invasive Disease (WNV-NID) Annual Report

Upcoming

March 24, 2014 - **World TB Day**

The goal is eliminating Tuberculosis (TB) as a public health problem and, ultimately, to obtain a world free of TB.

April - **STD Education and Awareness Month**

April 7, 2014 - **World Health Day**

The focus for World Health Day in 2014 is on vector-borne diseases.

(*Francisella novicida* ... continued from page 1)

One patient, originally diagnosed in 2011, had taken immunosuppressive medications for many years previous for an underlying illness and has continued to have a variety of infections. In January 2014, IDEpi was notified by a hospital laboratory technician that the same patient had a second blood culture presumptive positive *F. tularensis* by a reference laboratory. The patient was admitted with sepsis, osteomyelitis, leukopenia and thrombocytopenia and had complained of a one-week progressive weakness, fever, chills and leg pain (wound open with purulent drainage noted).

An investigation was started to determine if *F. novicida* had caused a chronic infection, or if the previous vehicle of transmission was yet again a source for new infection. IDEpi, with the assistance of the staff, reviewed the medical records at the long term residential facility from May 2011 to current dates, while the isolate was shipped from the reference laboratory to CDC DVBD.

The patient had a blood or wound culture every one-to-two months over a two-year time span. The results ranged from no growth, to normal skin flora, to positive for one or more bacterium including MRSA, *Acinetobacter baumannii*, *Klebsiella pneumoniae*, *Pantoea agglomerans*, *Morganella morganii*, and *Pseudomonas*. Repeated x-rays and MRIs from July 2011 to September 2012 showed radiologic findings consistent with acute osteomyelitis. The patient was treated with many antibiotics includ-

ing gentamycin, vancomycin, Zosyn®, clindamycin, Levaquin®, linezolid and Bactrim®.

The patient had no outdoor exposure; all sources of ice, water and food remained the same as in 2011. The previously implicated ice machines were cleaned properly according to the CDC's recommendations (see dhh.louisiana.gov/assets/oph/Center-PHCH/Center-CH/infectious-epi/EpiManual/IceMachinesManual.pdf); pipes were properly insulated and screened. Drinking water lines had no indication for maintenance prior to the patient's recent onset of infection. The PFGE pattern from this patient matched the organism isolated from the same patient and two others back in 2011, but was different from the isolate of the one case from May 2013. Additional samples from the drainage caused by the osteomyelitis were collected and shipped to the CDC DVBD and are pending culture and PCR. Swabs from the patient's leg wound were positive for *F. novicida* by PCR, but are not growing on culture to date. Given the patient's chronic osteomyelitis, consistent polymicrobial infections of the same leg, and the PFGE patterns of his 2011 and 2014 blood culture isolates, it was determined this was not a new infection causing his recent bacteremia, but a novel chronic infection.

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

(*West Nile Virus* ... continued from page 3)

above age 65 years). These cases are classified as WNV neuroinvasive disease (NID). Symptoms generally begin three to 14 days following the bite of an infected mosquito, and last two to six days before self-resolving.

Mosquito bites account for nearly all human infections. WNV is rarely transmitted via blood products and organ transplants. In October 2013, the Department of Health and Hospitals' Infectious Disease Epidemiology (IDEpi) Section received notification from the Centers for Disease Control and Prevention's (CDC) Division of Vector-Borne Diseases' Arboviral Diseases Branch, that an organ donor from another state screened reactive for WNV on Procleix® Transcription-Mediated Amplification (TMA). The nucleic acid amplification testing (NAT) was performed at a reference lab as part of the screening panel for the tissue bank. This type of testing is only performed on blood or tissues because a person may be infected without displaying symptoms for days to three weeks prior to their donation.

Reagents lyse the virus to release the genetic material which will be captured by probes specified to bind and then amplify portions of the RNA and/or DNA. When the target viral nucleic acid is identified giving a reactive test, the blood, tissue and organs from the donor could be sources for transmitting the virus to recipients.

Organs were procured and transplanted into three different recipients prior to the screening test on the donor being performed. Since an organ recipient was a Louisiana resident, IDEpi was included in a multi-state, suspect WNV transplant-associated cluster investigation. The organ donor did not have pre-existing antibod-

ies against WNV, which indicate that the donor was recently infected. Pre-transplant samples from the Louisiana organ recipient were negative for WNV RNA and IgM and IgG antibodies. Physicians collected blood for repeated testing for WNV RNA and seroconversion from the Louisiana recipient at routine postoperative visits from day one, post-transplant. The CDC tested a convalescent blood sample from the organ donor which resulted as WNV RNA negative, but positive for WNV IgM, IgG and neutralizing antibodies. It should be noted that the CDC RT-PCR assay has a lower sensitivity compared to the NAT used by Procleix® which may explain the difference in result for RNA. The TMA method uses larger volumes of serum and can detect lower amounts of viral RNA that might be present. In addition, fixed tissue samples of organs were tested by the CDC Pathology group for WNV antigen using immunohistochemistry (IHC) and WNV RNA using RT-PCR.

No WNV antigen or nucleic acid was detected on any of the organs or tissues tested. None of the organ recipients showed signs of WNV infection or antibodies after their transplant, and clinically are all doing well as of December 2013. The investigation's testing results suggests that the donor was clearing the infection and likely had very low levels of viral RNA in their blood; the tissues and organs were infected at subclinical levels, or not at all. The lack of overt infection in any of the recipients suggests that what, if any, virus was present in the donor's blood or organs was not able to transmit the infection to the recipients. It should be noted as well that if someone had WNV infection in the past, they can donate blood or organs after 120 days.

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

Table: Communicable Disease Surveillance, Incidence by Region and Time Period, November-December, 2013

DISEASE	HEALTH REGION									TIME PERIOD					
	1	2	3	4	5	6	7	8	9	Nov-Dec 2013	Nov-Dec 2012	Jan-Dec Cum 2013	Jan-Dec Cum 2012	Jan-Dec % Chg*	
Vaccine-preventable															
Hepatitis B	Cases	2	2	1	3	1	1	2	1	6	19	5	85	44	93.2
	Rate ¹	0.2	0.4	0.3	0.6	0.4	0.3	0.4	0.3	1.6	0.4	0.1	2.0	1.0	NA*
Measles		0	0	0	0	0	0	0	0	0	0	0	0	NA*	
Mumps		0	0	0	0	1	0	0	0	0	1	0	2	1	NA*
Rubella		0	0	0	0	0	0	0	0	0	0	0	0	NA*	
Pertussis		0	2	0	5	1	4	4	5	3	24	9	182	63	188.9
Sexually-transmitted															
HIV/AIDS	Cases ²	72	23	8	11	4	7	14	9	16	164	170	1323	1062	24.6
	Rate ¹	7.2	4.0	2.1	2.0	1.4	2.3	2.8	2.6	3.7	3.8	3.9	30.3	24.3	NA*
Chlamydia	Cases ^{1,3}	908	531	294	478	194	243	635	470	311	4,064	5,389	26,013	27,353	-4.9
	Rate ¹	108.7	80.1	72.2	81.8	66.3	78.4	116.7	132.1	57.5	89.6	118.9	573.8	594.4	NA*
Gonorrhea	Cases ^{1,3}	288	139	80	185	47	72	191	164	64	1,230	1,659	7,873	8,873	-11.3
	Rate ¹	34.5	21.0	19.7	31.7	16.1	23.2	35.1	46.1	11.8	27.1	36.6	173.7	192.8	NA*
Syphilis (P&S)	Cases ^{1,3}	12	4	5	3	1	1	15	8	1	50	55	386	339	13.9
	Rate ¹	1.4	0.6	1.2	0.5	0.3	0.3	2.8	2.2	0.2	1.1	1.2	8.5	7.4	NA*
Enteric															
Campylobacter	Cases	2	3	3	3	5	4	1	4	9	34	30	254	188	35.1
Hepatitis A	Cases	1	0	1	1	0	0	0	1	0	4	3	13	7	85.7
	Rate ¹	0.1	0	0.3	0.2	0	0	0	0.3	0	0.1	0.1	0.3	0.2	NA*
Salmonella	Cases	8	15	9	30	15	15	9	21	18	140	186	1226	1548	-20.8
	Rate ¹	0.8	2.6	2.4	5.8	5.6	4.9	1.8	6.0	4.7	3.2	4.3	28.4	35.9	NA*
Shigella	Cases	4	32	2	3	2	1	1	0	5	50	47	373	216	72.7
	Rate ¹	0.4	5.6	0.5	0.6	0.7	0.3	0.2	0	1.3	1.2	1.1	8.6	5.0	NA*
Vibrio, cholera	Cases	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Vibrio, other	Cases	0	0	2	0	0	0	0	0	0	2	4	36	53	-32.1
Other															
<i>H. influenzae (other)</i>		0	4	3	0	1	0	1	2	2	13	6	53	57	NA*
<i>N. Meningitidis</i>		0	0	0	0	1	0	0	0	0	1	1	11	4	175.0

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 = Preliminary data.

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

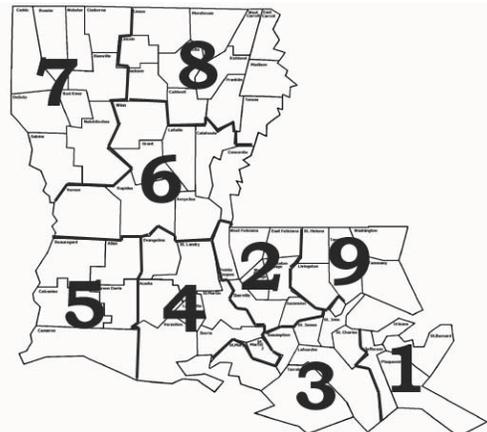
Table 2. Diseases of Low Frequency, January-December, 2013

Disease	Total to Date
Legionellosis	29
Lyme Disease	0
Malaria	8
Rabies, animal	8
Varicella	62

Table 3. Animal Rabies, November-December, 2013

Parish	No. Cases	Species
Lafayette	1	Dog

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	Fish/Shellfish Poisoning (Domoic Acid, neurotoxic, Ciguatera, paralytic, Scombroid)	Plague (<i>Yersinia Pestis</i>)	Smallpox
Anthrax	Foodborne Infection	Poliomyelitis (paralytic & non-paralytic)	<i>Staphylococcus aureus</i> , Vancomycin Intermediate or Resistant (VISA/VRSA)
Avian or novel strain Influenza A (initial detection)	<i>Haemophilus influenzae</i> (invasive disease)	Q Fever (<i>Coxiella burnetii</i>)	Staphylococcal Enterotoxin B (SEB)
Botulism	Influenza-associated Mortality	Rabies (animal and human)	Pulmonary Poisoning
Brucellosis	Measles (Rubeola imported or indigenous)	Ricin Poisoning	Tularemia (<i>Francisella tularensis</i>)
Cholera	<i>Neisseria meningitidis</i> (invasive infection)	Rubella (congenital syndrome)	Viral Hemorrhagic Fever
<i>Clostridium perfringens</i> (foodborne infection)	Outbreaks of Any Infectious Disease	Rubella (German Measles)	Yellow Fever
Diphtheria	Pertussis	Severe Acute Respiratory Syndrome-associated Coronavirus (SARS-CoV)	

Class B Diseases/Conditions - Reporting Required Within 1 Business Day

Diseases of public health concern needing timely response because of potential of epidemic spread-report by the end of the next business day after the existence of a case, a suspected case, or a positive laboratory result is known.

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

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

Diseases of significant public health concern-report by the end of the workweek after the existence of a case, suspected case, or a positive laboratory result is known.

Acquired Immune Deficiency Syndrome (AIDS) ³	Enterococcus, Vancomycin Resistant [(VRE), invasive disease]	Human T Lymphocyte Virus (HTLV I & II infection)	Staphylococcal Toxic Shock Syndrome
Anaplasma Phagocytophilum	Giardia	Leptospirosis	Streptococcal Disease, Group A (invasive disease)
Blastomycosis	Glanders	Listeria	Streptococcal Disease, Group B (invasive disease)
Campylobacteriosis	Gonorrhea ¹ (genital, oral, ophthalmic, pelvic inflammatory disease, rectal)	Lyme Disease	Streptococcal Toxic Shock Syndrome
Chlamydial infection ¹	Hansen Disease (leprosy)	Lymphogranuloma venereum 1	<i>Streptococcus pneumoniae</i> , invasive disease
Coccidioidomycosis	Hepatitis B (carriage, other than in pregnancy)	Melioidosis (<i>Burkholderia pseudomallei</i>)	Transmissible Spongiform Encephalopathies (Creutzfeldt-Jacob Disease & variants)
Cryptococcosis	Hepatitis C (acute illness)	Meningitis, Eosinophilic	Trichinosis
Cryptosporidiosis	Hepatitis C (past or present infection)	Nipah Virus infection	Varicella (chickenpox)
Cyclosporiasis	Human Immunodeficiency Virus (HIV (infection other than as in Class B) ²	Psittacosis	Vibrio Infections (other than cholera)
Ehrlichiosis (human granulocytic & monocytic, <i>Ehrlichia chaffeensis</i>)		Spotted Fevers (Rickettsia species including Rocky Mountain Spotted Fever (RMSF))	Yersiniosis
		<i>Staphylococcus aureus</i> , (MRSA) invasive infection	

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

Cancer	Hemophilia ⁴	Severe Undernutrition (severe anemia, failure to thrive)
Carbon Monoxide Exposure and/or Poisoning ⁵	Lead Exposure and/or Poisoning (children) ⁴ (adults) ⁵	Sickle Cell Disease (newborns) ⁴
Complications of Abortion	Pesticide-Related Illness or Injury (All ages) ⁵	Spinal Cord Injury
Congenital Hypothyroidism ⁴	Phenylketonuria ⁴	Sudden Infant Death Syndrome (SIDS)
Galactosemia ⁴	Reye's Syndrome	
Heavy Metal (Arsenic, Cadmium, Mercury) Exposure and/or Poisoning (All ages) ⁵	Severe Traumatic Head Injury	

Case reports not requiring special reporting instructions (see below) can be reported by mail or facsimile on Confidential Disease Report forms (2430), facsimile (504) 568-8290, telephone (504) 568-8313, or 1-800-256-2748 for forms and instructions.

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

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

³Report on CDC72.5 (F.5.2431) card

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

⁵Report 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 printings 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.