Louisiana Morbidity Report

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Pertussis Health Alert

Pertussis (whooping cough) cases across the country are at record highs. Louisiana's neighboring states are currently experiencing outbreaks. Louisiana physicians are being asked to be alert for pertussis cases, test when it is suspected, report cases to the **Louisiana State Epidemiology Hotline (800) 256-2748**, and recommend vaccination to unprotected persons.

Pertussis in Louisiana has historically occurred in waves, with peaks every three to five years followed by a subsequent sharp decline in cases. Outbreaks were seen in 2005 and 2009. In 2012, the cycle appeared to be starting over again as there were 72 cases, which is more than triple the 2011 count (n=20). It appears as if the outbreak that started in 2012 is continuing in 2013. As of September 13, there were 137 pertussis cases reported in Louisiana.

Several important factors lead to the increased reporting of pertussis cases including: waning immunity in adults and adolescents; incompletion of infant vaccination series; heightened awareness of the disease among clinicians, school nurses, parents, and general public; better laboratory testing methodologies; and enhanced disease surveillance capabilities.

From 2000 to 2012, a total of 43 deaths were attributed to pertussis in the United States. Most of the deaths occurred in infants younger than one year of age - most in children too young to be vaccinated (younger than two-months of age). In 2013, two deaths have been reported thus far; both occurring in children too young to be vaccinated.

Transmission

Pertussis is a very contagious disease spread through aerosolized droplets from person-to-person. The cause is infection with the organism *Bordetella pertussis*. People with pertussis usually spread

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CHEMPACK - Louisiana 2013

Leah Michael, R.Ph.

Since the earliest days of the National Pharmaceutical Stockpile, Louisiana has long been interested in the success of the CHEMPACK Project. The Louisiana CHEMPACK Response Plan provides guidance for response to an accidental or intentional nerve agent or organophosphate incident and establishes policies, procedures and organizational structures for response. Written CHEMPACK planning began at the state level and now includes all nine public health regions. Regional and local planners use the state level plan to establish additional guidelines and procedures to direct CHEMPACK response in their respective locales. The Louisiana Department of Health and Hospitals' Office of Public Health, state and parish Office of Homeland Security and Emergency Preparedness, the Louisiana Poison Center, the Louisiana State Police, local law enforcement, emergency medical services, fire services, hospitals and CHEMPACK host sites work cooperatively to ensure that they effectively prepare for the use and deployment of the CHEMPACK assets.

In early 2005, the Louisiana Strategic National Stockpile (SNS) Program detailed planning for CHEMPACK in the state. Hurricane Katrina response and recovery interrupted this effort. CHEMPACK planning resumed in December 2006 with a streamlined response plan through a strong partnership with the Louisiana Poison Center.* The state pre-positioned 30 CHEMPACK containers in 17 host sites in June 2007 (Figure 1).

Figure 1: CHEMPACK Containers with Bufferpacks on Top

Draft protocols for allocation and distribution of the chemi-

** Louisiana Morbidity Report Nov-Dec 2006 'Federal Medical Stations Louisiana, 2006'*

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the disease by coughing or sneezing while in close contact with others, who then breathe in the pertussis bacteria.

Symptoms

Pertussis usually starts with cold-like symptoms and maybe a mild cough or fever. After one to two weeks, severe coughing can begin. Unlike the common cold, pertussis can become a series of coughing fits that continues for weeks.

In infants, the cough can be minimal or not even there, but apnea may be a symptom. More than half of infants younger than one year of age who get the disease must be hospitalized.

Pertussis can cause violent and rapid coughing, over and over, until the air is gone from the lungs and inhalation is forced with a loud "whooping" sound. This extreme coughing can cause vomiting and exhaustion. The "whoop" is often not there and the infection is generally milder (less severe) in teens and adults, especially those who have been vaccinated.

Early symptoms can last for one to two weeks and usually include: runny nose; low-grade fever (generally minimal throughout the course of the disease); mild, occasional cough; apnea (in infants).

Because pertussis in its early stages appears to be nothing more than the common cold, it is often not suspected or diagnosed until the more severe symptoms appear. Infected people are most contagious during this time, up to about two weeks after the cough begins. Antibiotics may shorten the amount of time someone is contagious.

As the disease progresses, the traditional symptoms of pertussis appear and include: paroxysms of many, rapid coughs followed by a high-pitched "whoop"; vomiting; exhaustion after coughing fits. The coughing fits can go on for up to 10 weeks or more. In China, pertussis is known as the "100-day cough."

Although one is often exhausted after a coughing fit, the patient usually appears fairly well in-between. Coughing fits generally become more frequent and severe as the illness continues, and can occur more often at night. The illness can be milder (less severe) and the typical "whoop" absent in older children, teens, and adults who have been vaccinated.

Recovery from pertussis can happen slowly. The cough becomes less severe and less frequent; however, coughing fits can return with other respiratory infections for many months after pertussis started.

Timing

B. pertussis is most frequently recovered in the catarrhal or early paroxysmal stage of illness. Once cough has been present for more than three weeks, recovering the organism is unlikely.

Laboratory Diagnosis

The preferred methods for the laboratory diagnosis of pertussis are culture and polymerase chain reaction (PCR), and it is recommended in most cases that both tests be performed. These tests are the basis for the Centers for Disease Control and Prevention's (CDC) definition of a confirmed case of pertussis.

Culture of *B. pertussis* is the gold standard and the preferred laboratory test for pertussis; however, the organism can be difficult to isolate. Culture is less sensitive than PCR, but is 100% specific (no false positives). A negative culture result does not rule out pertussis infection. The Centers for Disease Control and Prevention recommends confirming outbreaks with more than one culture confirmed case. *B. pertussis* usually grows after three to four days, however cultures cannot be considered negative for pertussis until after 10 days.

The primary reasons for failure to isolate *B. pertussis* are bacterial or fungal contamination, lack of fresh media, and specimen collection too late in illness. Cultures can also be negative if taken from a previously immunized person or if antimicrobial therapy has been started.

A PCR assay provides rapid results and is more sensitive (less likely to be falsely negative) than culture. However, false positive test results can be a problem. A person with a positive PCR who does not have a cough is not considered a case.

PCR tests are less sensitive in previously immunized individuals, but are more sensitive than cultures in such patients. PCR tests are also more likely than cultures to be positive in patients who have received antimicrobial treatment. Length of PCR positivity is similar to that for cultures. Delay in specimen collection is the main reason for a negative PCR test result in a patient with pertussis.

No PCR product has been approved by the Food and Drug Administration (FDA), and there are no standardized protocols, reagents, or reporting formats for pertussis PCR testing. Consequently, PCR assays vary widely among laboratories.

Specificity can be poor, with high rates of false-positive results in some laboratories. Like culture, PCR is also affected by specimen collection. An inappropriately obtained nasopharyngeal swab will likely be negative by both culture and PCR. PCR is less affected by prior antibiotic therapy, since the organism does not need to be viable to be positive by PCR. Continued use of culture is essential for confirmation of PCR results.

Alternative When Culture Or PCR Is Not Available, Or When It Has Been More Than Three Weeks Since Cough Onset

There is no FDA-approved diagnostic test. The currently available serologic tests measure antibodies that could result from either infection or vaccination, so a positive serologic response simply means that the person has been exposed to pertussis by either recent or remote infection or by recent or remote vaccination. Since vaccination can induce both IgM and IgA antibodies (in addition

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to IgG antibodies), use of such serologic assays cannot differentiate infection from vaccine response. At this time, serologic test results should not be relied upon for case confirmation of pertussis infection.

Commercially available serologic tests to detect IgG and IgA antibodies to pertussis toxin have not been clinically validated and are not generally recommended; however, one serologic enzyme-linked immunosorbent assay (ELISA) like test (Focus Technologies, Cypress, CA) for detection of IgG and IgA antibodies to pertussis toxin may be useful for diagnosis. Diagnosis of pertussis on the basis of a high single serum titer from this test is expected to be reasonably sensitive and specific in persons older than 10 years of age if it has been more than two years since the last dose of pertussis containing vaccine was received.

Tests That Are Not Recommended

Commercial ELISA tests that use whole *B. pertussis* or *B. pertussis* antigens rather than pertussis toxin (i.e., FHA tests) have high false positive rates and are not recommended. Testing for pertussis IgM antibody is also not recommended.

Direct fluorescent antibody (DFA) tests on smears made from nasopharyngeal specimens are not recommended for pertussis diagnosis, nor does a positive DFA test meet the CDC criteria for laboratory confirmation of a pertussis case. The sensitivity of these tests is low and they are performed reliably only by experienced technologists.

For more information on pertussis, please go to web page www.dhh.louisiana.gov/index.cfm/page/531.

(CHEMPACK ... continued from page 1)

cal antidotes were developed and a CHEMPACK drill was held in May 2007 to test the protocols for distribution and receipt of the antidotes. A hospital container host site, and Emergency Medical Service (EMS) container host site, a receiving hospital, the State Police, the Louisiana Poison Center and the 911 operations center participated in the drill. Revisions to the protocols were made and the protocols were provided to the hospitals and EMS providers.**

CHEMPACK exercises were conducted with emergency management, hospitals, EMS and Public Health Regions 1 and 5 in 2009. Education and outreach was conducted at sustainment in 2008 and 2009 for Louisiana's color coding and allocation planning. In 2011 the state conducted a regional functional exercise and the Louisiana SNS Program conducted a series of nine regional tabletop exercises to validate planning. The Louisiana Poison Center developed a training DVD that was used during the tabletop exercise and continues to be used for training purposes.

State staff used the opportunity of the January 2010 CHEMPACK sustainment to place allocation and training packets at each host site. These training packets provide information to the host site staff on CHEMPACK allocation and the chain of custody process. One allocation packet was co-located with each CHEMPACK container and a training packet was left at each host site for use in their staff outreach for preparedness training. At this time, posters were left for the emergency departments so that staff was aware of the symptoms of organophosphate poisoning (Figure 2).

*** Louisiana Morbidity Report May-Jun 2007 'Point of Dispensing Sites'*

Figure 2: 'Dumbells' Poster - Symptoms or Organophosphate Poisoning

CHEMPACK buffer packs have been co-located with each container to prevent the opening of a CHEMPACK container in an incident where only a few patients have been exposed and require treatment. The buffer pack is a small box containing enough antidotes to treat three to five patients for approximately 12 hours. The assets in the buffer pack are state-owned and state staff monitors expiration dates and replaces the product as needed.

There have been three incidents of accidental organophosphate poisoning that required the use of CHEMPACK buffer packs. The use of these assets tested aspects of our CHEMPACK response plan in a real life event and validated its effectiveness; the Louisiana Poison Center was instrumental in the response. They determined that CHEMPACK assets were needed and that a buffer pack would be sufficient so that the CHEMPACK container did not have to be opened. They also monitored the situation and directed the allocation of assets from nearby host sites.

Federal Emergency Management Agency (FEMA) Region 6 states of Texas, Arkansas, Louisiana, Oklahoma and New Mexico have worked to coordinate Emergency Management Assistance Compacts for the sharing of assets across state lines. Louisiana conducted hurricane pre-planning and response for CHEMPACK containers for Hurricanes Gustav, Ike and Isaac; the State has repositioned containers once due to host site issues. CHEMPACK container location had been a consideration for all major events such as Mardi Gras, the 2012 NCAA tournament and the 2013 Super Bowl.

Louisiana has enjoyed a quiet hurricane season in 2013 and is planning a CHEMPACK Functional Exercise for 2014. The State looks forward to an expansion of CHEMPACK beyond nerve agent antidotes, and remains a committed partner to the SNS and CHEMPACK Programs.

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Maternal Perinatal Smoking Behavior and Infant Outcomes Louisiana, 2008-2009

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Background:

The impact of cigarette smoking on women's health has been well documented; studies have shown that smoking hinders the ability to conceive and increases the risk of chronic diseases and cancers. Pregnant women who smoke not only jeopardize their own health, but also endanger fetal development and growth, as newborns are at risk of congenital deformities and under-development of vital organs and systems which could both manifest in early infancy, and extend to affect childhood health. Secondhand smoke has been associated with Sudden Infant Death Syndrome (SIDS), respiratory diseases and allergies, and ear and eye infections.

The primary goals of this report are to investigate the prevalence of smoking before, during, and after pregnancy, assess congruence between self-reported postpartum maternal smoking and infant exposure to secondhand smoke, identify factors associated with resuming smoking after delivery among women who quit smoking during pregnancy, and investigate the association between maternal smoking during pregnancy and post-neonatal mortality.

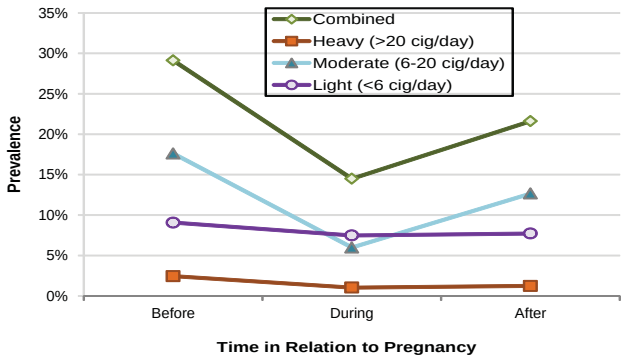
Methods and materials:

Louisiana Pregnancy Risk Assessment Monitoring System (LaPRAMS) data linked with vital records birth certificates were used to investigate smoking prevalence, congruence with infant smoke exposure, and factors associated with postpartum smoking relapse. LaPRAMS data represents a stratified random sample of about 4% of Louisiana women who delivered a live-born infant in Louisiana each year. Women were selected based on infant birth weight (< 1,500 grams versus ≥ 1,500 grams), and geographic residence (Urban and Rural per U.S. Census definitions of Louisiana Parishes). In 2008 and 2009, 4,114 women were sampled and 2,142 responded to the LaPRAMS survey. Data are weighted to be reflective of the total population of Louisiana resident women giving birth during the study period. Statistical software accounting for complex samples was used to calculate percents and Phi coefficients to assess congruence between postpartum maternal smoking and infant exposure to secondhand smoke, while bivariate analyses and logistic regression were used to assess factors associated with postpartum smoking relapse while controlling for confounders. In order to assure sufficient sample size, 2007 data were included in the smoking relapse analysis. Cohort linked birth and infant death records from 2008-2009 were used to assess the association between maternal smoking during pregnancy and infant mortality; alpha was set at 0.05.

Results:

The prevalence of smoking was 29.1% (95% CI: 26.8, 31.5) three months before pregnancy, 14.5% (95% CI 12.7, 16.3) in the last trimester, and 21.6% (95% CI 19.5, 23.8) after delivery (Figure).

Figure : Maternal Smoking Prevalence Before, During and After Pregnancy Quantified by Their Smoking Habit - Louisiana, 2008-2009



Only 20.5% of the women who reported smoking also reported infant exposure to secondhand smoke, indicating poor congruence (Phi: 0.2045), (Table 1).

Table 1: Selected Characteristics of Women Who Reported Infant Exposure to Secondhand Smoke By Their Smoking Status After Delivery Louisiana, 2008 and 2009.

	Smoker, Weighted %		Non-smoker, Weighted %		Phi
	Reported	Not Reported	Reported	Not Reported	
Overall	20.49	79.51	6.03	93.97	0.2045
Insurance[a]					
Private	9.51	90.49	3.66	96.34	0.0943
Medicaid	23.28	76.72	8.02	91.98	0.2095
Not insured	1.76	98.24	4.92	95.08	-0.0348
Work/School[b]*					
Yes	19.81	80.19	5.39	94.61	0.2021
No	24.04	75.96	3.93	96.07	0.3072
Smoking rule[c]*					
Not allowed	12.11	87.89	4.55	95.45	0.1267
Allowed	70.2	29.8	9.38	90.62	0.6268
No. of dependents[d]*					
<=2	16.39	83.61	9.62	90.38	0.0896
>=3	27.08	72.92	1.18	98.82	0.4235

[a] *Insurance type at the time of delivery.*

[b] *Mothers who are also on maternity leave are considered as going to school or work.*

[c] *Smoking rule inside the house.*

[d] *Number of dependents on the household income 12 months before the delivery.*

** For 2009 only*

Among women who reported smoking after pregnancy and where smoking was allowed inside the home, 70.2% reported infant exposure to secondhand smoke (Phi: 0.6268). Infants whose mothers reported smoking after delivery were four times as likely to have reported exposure to secondhand smoke compared to infants whose mothers reported not smoking after delivery (OR: 4.0, 95% CI: 2.7, 6.0, p <0.0001), after adjusting for mother's age, race, education, insurance at delivery, receipt of smoking counseling, and homelessness.

Factors independently associated with smoking relapse included mother's age, race, education, marital status, insurance at delivery, and homelessness (Table 2).

Table 2: The Association Between Smoking Relapse And Selected Characteristics - Louisiana, 2007-2009

	Unadjusted			Adjusted[a]		
	uOR	95%CI	P value	aOR	95%CI	P value
Mother's Age (ref ≥ 25 years)						
<25 year	2.37	1.480, 3.79	0.0002	2.01	1.19, 3.40	0.0094
Mother's Race (ref Non-Hispanic White)						
Non-Hispanic Black	1.21	0.62, 2.35	0.5696	1.00	0.48, 2.08	0.9932
Hispanic	0.29	0.10, 1.04	0.0566	0.31	0.08, 1.20	0.09
Other	0.42	0.10, 1.76	0.2362	0.48	0.12, 1.99	0.3124
Mother's Education (ref > 12 years)						
<12 year	2.87	1.38, 5.96	0.0046	1.61	0.70, 3.70	0.2624
=12	1.56	0.96, 2.53	0.072	1.17	0.67, 2.03	0.5864
Mother's Marital Status (ref Married)						
Unmarried	1.20	0.60, 2.39	0.6141	1.04	0.49, 2.21	0.9181
Mother's Insurance at Delivery (ref Private)						
Not Insured	1.18	0.16, 8.45	0.8703	1.16	0.20, 6.83	0.8665
Medicaid	1.73	1.10, 2.73	0.0181	1.22	0.71, 2.12	0.4754
Mother is Homeless (ref No)						
Yes	1.53	0.37, 6.38	0.5564	1.16	0.24, 5.68	0.8528

Abbreviations: uOR, unadjusted odds ratio; aOR, adjusted odds ratio; CI, confidence interval.

[a] Adjusted for mother's age, race, education, and marital status; mother's insurance at delivery and whether the mother is homeless or not.

After adjustment, only younger maternal age remained significantly associated with relapse (OR: 2.0, 95% CI: 1.2, 3.4, p <0.01).

The infant mortality rate was 6.8 per 1,000 births among women who smoked during pregnancy compared to 3.2 per 1,000 among women who did not (OR: 1.5, 95% CI: 1.2, 1.9, p <0.005), (Table 3).

Table 3: The Association Between Post-neonatal Mortality and Selected Characteristics - Louisiana, 2008 and 2009

	Unadjusted			Adjusted[a]		
	uOR	95%CI	*P* value	aOR	95%CI	*P* value
Maternal Tobacco Use (ref No)						
Yes	2.12	1.68, 2.67	<0.0001	1.49	1.16, 1.91	0.0017
Mother's Age (ref ≥ 25 Years)						
<25 year	1.63	1.36, 1.96	<0.0001	1.16	0.95, 1.43	0.1512
Mother's Race (ref Non-Hispanic White)						
Non-Hispanic Black	1.44	1.20, 1.74	<0.0001	0.98	0.79, 1.21	0.8161
Hispanic	0.50	0.27, 0.91	0.0235	0.45	0.24, 0.83	0.0104
Other	0.48	0.20, 1.17	0.1055	0.49	0.20, 1.18	0.1111
Mother's Education (ref > 12 Years)						
<12 year	2.810	2.21, 3.57	<0.0001	2.01	1.53, 2.65	<0.0001
=12 year	2.16	1.72, 2.72	<0.0001	1.75	1.37, 2.24	<0.0001
Mother's Marital Status (ref Married)						
Unmarried	1.97	1.62, 2.40	<0.0001	1.27	1.00, 1.60	0.0513
Mother With Medical Risk Factors[b] (ref No)						
Yes	1.40	1.16, 1.70	0.0004	1.06	0.87, 1.28	0.5898
Newborn With Anemia (ref No)						
Yes	4.50	2.46, 8.22	<0.0001	2.48	1.33, 4.64	0.0045
Newborn With Seizures (ref No)						
Yes	7.34	1.01, 53.56	0.021	5.70	0.76, 43.03	0.0914
Previous Live Birth Dead (ref No)						
Yes	1.84	1.08, 3.13	0.0234	1.27	0.74, 2.18	0.3906
Newborn's Year of Birth (ref 2009)						
2008	1.20	1.00, 1.44	0.0472	1.21	1.01, 1.46	0.0414
Newborn's Sex (ref Female)						
Male	1.27	1.06, 1,53	0.0094	1.37	1.14, 1.64	0.0009
Infant Birth Weight (ref Not LBW)						
LBW (< 2,500 Grams)	5.93	4.93, 7.14	<0.0001	5.21	4.30, 6.31	<0.0001
Newborn With Congenital Malformation(s) (ref No)						
Yes	2.37	1.57, 3.58	<0.0001	2.62	1.71, 4.01	<0.0001

Abbreviations: uOR, unadjusted odds ratio; aOR, adjusted odds ratio; CI, confidence interval; LBW, low birth weight

[a] Adjusted for mother's age, race, marital status and education level, mother's history of medical risk factors, previous live birth dead, year of newborn birth, newborn's sex, new born with low birth weight, seizures and anemia, and presence of congenital malformations.

[b] Medical risk factors include, anemia, cardiac diseases, acute or chronic lung disease, diabetes, genital herpes, hyramnios/ oligohydramnios, hemoglobinopathy, hypertension-chronic, hypertension-pregnancy associated, eclampsia, incomplete cervix, previous infant 4000 grams, previous preterm or small for gestational age infant, renal disease, RH sensitive, uterine bleeding, other.

Discussion and Conclusion:

Louisiana consistently reported higher smoking prevalence compared to other states and jurisdictions where pregnancy risk assessment monitoring system (PRAMS) data were available (before pregnancy LA=29.1% versus 23.0% combined other PRAMS states; during pregnancy LA=14.5% versus 12.8% combined other PRAMS states; after delivery LA=21.6% versus 17.6% combined other PRAMS states).

The low congruence between mother's smoking status after delivery and reported infant exposure to secondhand smoke warrants further investigation. One possibility is that the question in the survey may not be a good proxy for infant exposure to secondhand smoke, as it asks about the number of hours per day that the infant is around individuals who smoke. This could be interpreted as the physical presence of another individual smoking in the same room with the infant while missing the exposure that could happen by the dispersion or lingering of smoke in the house.

Maintenance of smoking cessation after pregnancy can help women have better health. Factors associated with smoking relapse indicated that age is a crucial factor, as it appears that women younger than 25 years of age are more likely to resume smoking after delivery regardless of race, education, and type of insurance at delivery. Developing appropriate plans to target this population could have a favorable impact on reducing smoking relapse after delivery.

Maternal smoking during pregnancy showed a significant association with higher post-neonatal mortality. In addition, low maternal education, non-Hispanic Blacks, low birth weight, congenital malformations, anemia, and male infant gender all showed significant associations with higher post-neonatal mortality.

This analysis shows that maternal smoking represents a considerable public health burden in Louisiana. Women appear more likely to quit smoking during pregnancy, which provides an opportunity for implementing programs that provide guidance for quitting smoking and preventing relapse. Programs should be closely tailored toward subgroups with high vulnerability as identified in these results.

For references or more information, please contact Dr. Kieltyka at (504) 568-3511 or email to lyn.kieltyka@la.gov.

Announcements

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

Annual Reports: A Comparison of Rates in Louisiana & Other Southern States 2011; Lyme Disease; Measles (Rubeola)
Epidemiology Manual: Amebic Encephalitis and Keratitis; Drug Disposal (FDA); *Naegleria fowleri* in Animals; Pertussis Info for Medical Staff
HAI: Fall 2013 Newsletter
Influenza: Fax Report Form 2013-2014 Season; Louisiana Influenza Surveillance Handbook 2013-2014 Season; Virologic Surveillance Handbook 2013-2014 Season; Weekly Report
Veterinary: *Naegleria fowleri* in Animals

Infectious Disease Epidemiology Training 2013

Natchitoches - November 13, 2013 - This training is free and open to the public, but registration is required to ensure seating/materials. The focus is on the spread of infectious diseases in childcare settings. Nursing and Sanitarian credit hours are available. Agenda and registration form at webpage www.dhh.louisiana.gov/index.cfm/page/1297.

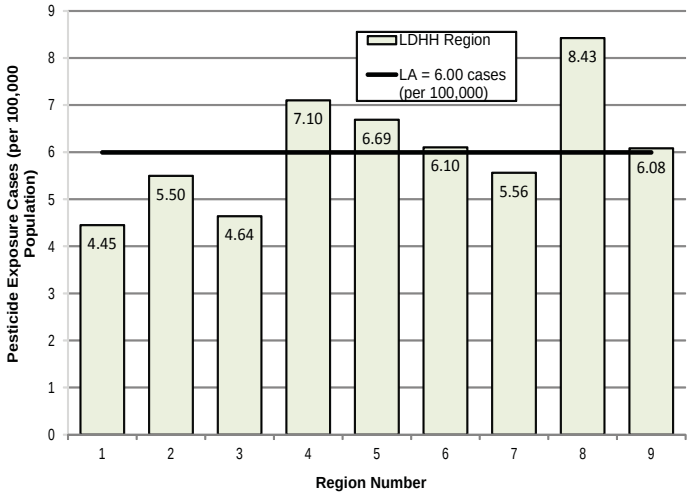
Pesticide Exposure Surveillance – Louisiana, 2013

Shannon Soileau, M.S.

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

The Pesticide Surveillance Program recently released *Summary of Pesticide Surveillance Data: Louisiana, 2006-2011*, which provides descriptive statistics of aggregate pesticide exposure case data. Between 2006 and 2011, 1,594 individuals (cases) reported health effects associated with pesticide exposure. The median number of cases per year was 274, ranging from 128 (2011) to 388 (2007). (The Program recently discontinued tracking non-occupational disinfectant exposures which resulted in fewer cases in 2011.) Madison, Richland and Franklin Parishes, in the northeastern part of the state (Region 8*) had the highest average annual rate of pesticide exposure cases; all parishes had at least one reported exposure (Figure).

Figure: Average Annual Pesticide Exposure Case Rate by DHH Region, Louisiana, 2006-2011.



Overall there were more male cases (51%) than female cases (49%). Thirty-four percent of cases (N=546) were between 20 and 39 years old. Two hundred and sixty-five cases (17%) were less than ten years old. Two hundred and eleven cases (13%) were working when the reported pesticide exposure occurred. Ninety percent of cases had mild health effects (low severity). There were no deaths. The most common type of symptom reported was respiratory (28%), followed by gastrointestinal (18%).

Approximately two-thirds of the reported exposures (N=1050) occurred during spring or summer months. The circumstance of exposure for the majority of cases was targeted exposure (58%, N=924). The target surface for a third (534 cases) of all applications was the interior or exterior of a building. The most common site of an exposure event was a single family home (83%, or 1,317 cases). Applications via manual placement accounted for 40%, or 639, of the cases. The most common pesticide types involved in reported incidents were insecticide (45%, 724 cases) followed by disinfectants (39%, 626 cases).

To access the complete report, visit *www.dhh.louisiana.gov/assets/oph/Center-PHCH/Center-CH/infectious-epi/LMR/SumPestSurvData0611.pdf*. For more information on Louisiana DHH's Pesticide Surveillance Program, visit the website at *www.dhh.louisiana.gov/index.cfm/page/836*, call 1-888-293-7020 (toll free), or send an email to *oph.seetweb@la.gov*.

*Map of regions on page 7

IDEPI Question/Answer Corner

How Can Water Be Disinfected With Bleach?

Bleach will kill some, but not all, types of disease-causing organisms that may be in the water (chlorine and iodine may not be effective in controlling more resistant organisms like *Cryptosporidium*).

Add 1/8 teaspoon (or 8 drops) of regular, unscented, liquid household bleach for each gallon of water, stir it well, and let it stand for 30 minutes before you use it. Store disinfected water in clean containers with covers.

Bleach	Container
8 Drops or 1/8 teaspoon	1 Gallon
2 ½ Teaspoons	20 Gallon container
5 to 9 Teaspoons	Average tub 40 to 70 gallons
18 Teaspoons or ¼ Cup	Kiddie pool (depends on size) about 140 Gallons

To calculate the volume of a tub:

- Measure the length, the width and the height of water in inches
- Volume in cubic inches = Length x Width x Height of water
- Divide by 233 to calculate Gallons

Example for a tub 60" long, 24" wide and water at 12" height:
60" x 24" x12" =17,280 Cubic inches /233 = about 75 Gallons".

To calculate the volume of a kiddie pool:

- Measure the diameter of the circular pool and the height of the water in inches
- Volume of water in cubic inches 3.14 x (Diameter/2) x (Diameter/2) x Height
- Divide by 233 to calculate Gallons

Example for a kiddie pool with 48" diameter and water at 18" height:
3.14 x (48/2) x (48/2) x 18 = 3.14 x 24 x 24 x 18 = 32,555 cubic inches /233 = 140 Gallons

Table: Communicable Disease Surveillance, Incidence by Region and Time Period, July-August, 2013

DISEASE		HEALTH REGION 1	2	3	4	5	6	7	8	9	TIME PERIOD Jul-Aug 2013	Jul-Aug 2012	Jan-Dec Cum 2013	Jan-Dec Cum 2012	Jan-Dec % Chg*
Vaccine-preventable															
Hepatitis B	Cases	3	3	2	3	1	1	0	0	7	20	9	49	35	40.0
	Rate[1]	0.3	0.5	0.5	0.6	0.4	0.3	0	0	1.8	0.5	0.2	1.1	0.8	NA*
Measles		0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Mumps		0	0	0	0	0	0	0	0	0	0	0	1	0	NA*
Rubella		0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Pertussis		16	3	6	12	1	1	3	2	9	53	24	131	43	204.7
Sexually-transmitted															
HIV/AIDS	Cases[2]	39	25	7	14	2	7	14	7	8	124	190	756	744	1.6
	Rate[1]	3.9	4.3	1.8	2.6	0.7	2.3	2.8	2.0	1.8	2.8	4.3	17.3	17	NA*
Chlamydia	Cases[1,3]	977	222	92	238	134	152	338	189	93	2,435	4,310	15,454	16,420	-5.9
	Rate[1]	117.0	33.5	22.6	40.7	45.8	49.1	62.1	53.1	17.2	53.7	95.1	340.9	362.2	NA*
Gonorrhea	Cases[1,3]	323	46	20	96	38	21	94	62	21	721	1,603	4,530	5,584	-18.9
	Rate[1]	38.7	6.9	4.9	16.4	13.0	6.8	17.3	17.4	3.9	15.9	35.4	99.9	123.2	NA*
Syphilis (P&S)	Cases[1,3]	9	4	2	10	2	2	23	5	1	58	55	227	203	11.8
	Rate[1]	1.1	0.6	0.5	1.7	0.7	0.6	4.2	1.4	0.2	1.3	1.2	5.0	4.5	NA*
Enteric															
Campylobacter	Cases	5	13	4	3	0	6	8	4	7	50	39	167	124	34.7
Hepatitis A	Cases	0	0	0	0	0	0	0	0	1	1	2	6	3	NA*
	Rate[1]	0	0	0	0	0	0	0	0	0.3	0	0	0.1	0.1	NA*
Salmonella	Cases	22	54	31	42	14	14	20	34	51	282	379	749	934	-19.8
	Rate[1]	2.1	9.5	8.2	8.1	5.2	4.6	4.0	9.7	13.2	6.5	8.8	17.4	21.6	NA*
Shigella	Cases	5	25	0	25	2	3	1	1	29	91	28	236	130	81.5
	Rate[1]	0.5	4.4	0	4.8	0.7	1.0	0.2	0.3	7.5	2.1	0.6	5.5	3.0	NA*
Vibrio cholera	Cases	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Vibrio, other	Cases	1	1	2	1	0	0	0	0	4	9	8	29	38	-23.7
Other															
H. influenzae (other)		0	2	2	0	1	0	1	0	0	6	11	36	41	-12.2
N. Meningitidis		0	0	0	0	0	0	0	0	0	0	1	6	3	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.

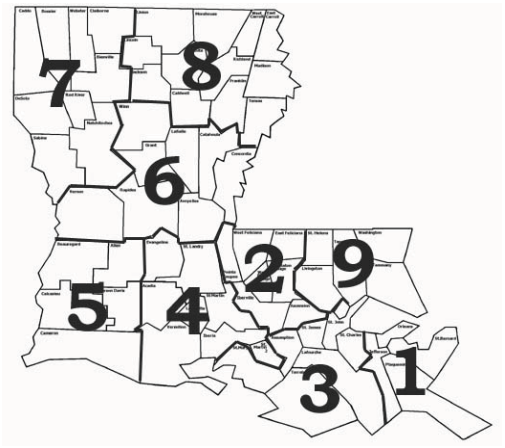
Table 2. Diseases of Low Frequency, January-December, 2013

Disease	Total to Date
Legionellosis	20
Lyme Disease	0
Malaria	6
Rabies, animal	5
Varicella	49

Table 3. Animal Rabies, July-August, 2013

Parish	No. Cases	Species
Webster	1	Bat

Figure: Department of Health and Hospitals Regional Map



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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

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