

Louisiana Morbidity Report



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Feral Hogs and Trichinellosis: Louisiana, 1961-2016

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The widespread distribution of feral swine in the state of Louisiana and the popularity of hog hunting may increase the risk of several diseases in Louisiana's population. One such disease is trichinellosis (also called trichinosis), a parasitic disease of swine that, when acquired by humans, may cause significant morbidity.

Feral swine (*Sus scrofa*) are now present in all of Louisiana's 64 parishes. They are listed in the top 10 of the world's most injurious invasive species, and are so prolific scientists estimate that more than 70% of the population must be removed annually in order to reduce populations (Figure).

Figure: Feral Pig

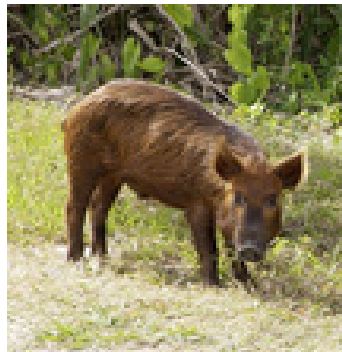


Photo courtesy of the National
Aeronautics and Space
Administration

Due to the following negative impacts on wildlife and plant communities, reduction of feral swine populations is encouraged. Feral swine compete for resources and issue direct effects due to predation and habitat damage. They are deleterious to row crop agriculture, livestock, and timber. Feral hogs contaminate surface and drinking water with coliform bacteria, as well as increase soil erosion.

Feral swine are potentially important reservoirs for several zoonotic diseases and parasites. Some, such as pseudorabies, can be transmitted to wild and domestic animals and are often lethal. Other diseases, however, can also be transmitted to humans by dermal con-

tact, mucosal contact, or by ingestion. Humans may contract bacterial diseases such as brucellosis (namely *Brucella suis*) and leptospirosis from feral swine. Studies conducted by the Louisiana Department of Wildlife and Fisheries (LDWF) and U.S. Department of Agriculture (USDA) Wildlife Services indicate that approximately 3.5% of the feral hog population is sero-positive for *Brucella suis*; seropositive animals may approach 50% of the population in some areas of the state.

Nematodes (roundworms) of the genus *Trichinella* cause trichinellosis. In swine and carnivores worldwide, the most historically significant species has been *Trichinella spiralis*; however, other *Trichinella* species are capable of causing the disease. These species include: *T. pseudospiralis*, a non-capsule forming species found in mammals and birds throughout the world; *T. nativa* in arctic bears; *T. nelson* in several African mammalian species; and *T. britovi* in European and western Asian carnivores. It is very likely that anyone who prepares food for consumption recalls the insistence by health officials that all pork products be thoroughly cooked. Trichinellosis is the zoonotic disease most responsible for this well-established, safe-cooking rule.

When ingested, gastric pepsin and acid digest the cyst-like capsule of the *Trichinella* nematode and releases the larvae, which proceed to colonize the small intestine's mucosa and develop into adults. These adults live approximately four weeks, but after one week the females are capable of producing larvae that migrate to skeletal muscle and encyst. Rodent species are responsible for maintenance of the parasite, but higher carnivores and omnivores (e.g., swine) become infected by consumption of muscle from living or dead animals. Humans can also be secondarily infected if undercooked muscle from these animals is eaten. Bears, swine, wild felines, foxes, dogs, wolves, horses, seals, and walrus are some of the most common species infected with *Trichinella*.

In humans, abdominal symptoms resulting from effects on the small intestine can begin one or two days after ingesting the capsules and may include pain, diarrhea, fatigue, fever, nausea, and vomiting. Symptoms associated with muscle cysts usually begin two to eight weeks after consumption of infected muscle tissue. These symptoms may include headache, fever, chills, cough, swelling of the face and/or eyes, arthralgia, myalgia, urticaria, and further abdominal symptoms. The severity of the symptoms is often related to the number of infectious organisms within the consumed meat. In very heavy infections, problems with muscle coordination, cardiac and respiratory disease, and even death may result. Mild cases often subside within a few months, while heavier parasite loads may cause symptom persistence for several months.

Diagnosis is made most often when a patient's condition reflects the aforementioned symptoms and the patient recalls consumption
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Adult Cigarette Smoking and Smokeless Tobacco Use Prevalence - BRFSS: Louisiana and the United States, 2014

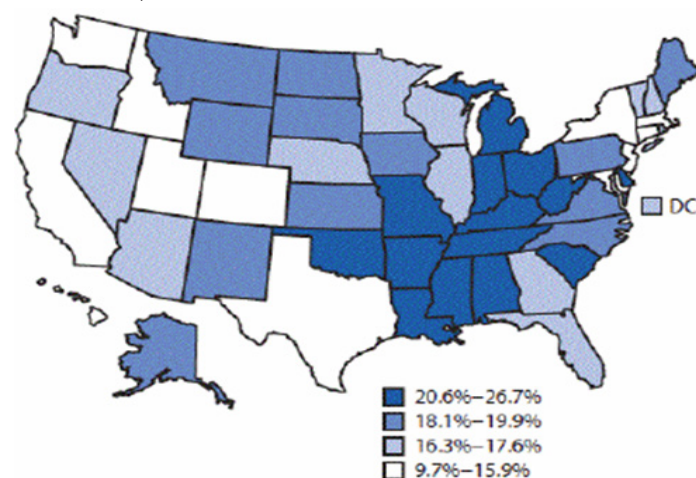
Excerpt from CDC's Morbidity and Mortality Weekly Report MMWR October 7, 2016 / 65(39);1045–1051

Tobacco use is the leading cause of preventable disease and death in the United States. It results in approximately 480,000 premature deaths and more than \$300 billion in direct health care expenditures and productivity losses each year. In recent years, although cigarette smoking prevalence has declined in many states, in most states there has been little change in the prevalence of current smokeless tobacco use or concurrent use of cigarettes and smokeless; tobacco prevalence has increased in some states.

The numbers in this report were obtained using the Behavioral Risk Factor Surveillance System (BRFSS), an annual state-based telephone (landline and cell phone) survey of noninstitutionalized U.S. adults aged greater than or equal to 18 years. During 2014, the median survey response rate for all states, territories, and the District of Columbia (DC) was 47.0% (range = 25.1% - 60.1%)

The difference in prevalence of any cigarette and/or smokeless tobacco use across states ranged from 11.3% in Utah to 32.2% in West Virginia (Figure, Table 1).

Figure: State-specific Prevalence of Adult Cigarette Smoking, BRFSS - United States, 2014¹



¹ Persons aged greater than or equal to 18 years who reported having smoked greater than or equal to 100 cigarettes during their lifetime and smoked every day or some days at the time of survey.

Table 1. Prevalence of Adult Cigarette Smoking, Smokeless Tobacco Use, and Any Cigarette/Smokeless Tobacco Use, BRFSS - Louisiana and Neighboring States, 2014

	Cigarette Smoking	Smokeless Tobacco	Any Cigarette and/or Smokeless Tobacco
State	% (95% CI)	% (95% CI)	% (95% CI)
Alabama	21.1 (19.8–22.5)	5.8 (5.0–6.7)	24.3 (23.0–25.7)
Arkansas	24.7 (22.8–26.8)	6.5 (5.3–7.8)	27.6 (25.6–29.7)
Florida	17.6 (16.5–18.8)	2.7 (2.2–3.3)	17.9 (16.8–19.1)
Louisiana	24.0 (22.6–25.4)	5.3 (4.6–6.1)	26.3 (24.9–27.7)
Mississippi	23.0 (21.1–25.0)	7.5 (6.4–8.9)	26.5 (24.6–28.5)
Texas	14.5 (13.6–15.6)	4.2 (3.7–4.8)	16.4 (15.4–17.4)

CI = confidence interval.

There are state-specific differences and disparities in any cigarette/smokeless tobacco (chewing tobacco, snuff, or snus) use between sexes and among racial/ethnic groups (Tables 2 and 3).

Table 2: Prevalence of Adult Cigarette Smoking, Smokeless Tobacco Use, and Any Cigarette/Smokeless Tobacco Use, BRFSS - Louisiana and Neighboring States, 2014

	Cigarette Smoking		Smokeless Tobacco		Any Cigarette and/or Smokeless Tobacco	
State	% (95% CI)		% (95% CI)		% (95% CI)	
	Male	Female	Male	Female	Male	Female
Alabama	23.5 (21.3–25.7) ^f	19.0 (17.4–20.6)	11.1 (9.6–12.8) ^f	1.0 (0.7–1.5)	30.1 (27.9–32.5) ^f	19.0 (17.4–20.6)
Arkansas	26.2 (23.1–29.4)	23.4 (21.0–26.0)	12.2 (10.0–14.8) ^f	1.1 (0.7–1.8)	32.9 (29.7–36.2) ^f	22.6 (20.3–25.1)
Florida	20.0 (18.1–21.9) ^f	15.5 (14.1–16.9)	4.4 (3.5–5.6) ^f	1.1 (0.7–1.7)	21.1 (19.3–23.0) ^f	14.9 (13.6–16.3)
Louisiana	27.6 (25.4–29.9) ^f	20.7 (19.1–22.3)	9.4 (8.1–10.9) ^f	1.4 (1.0–2.0)	32.5 (30.3–34.8) ^f	20.4 (18.9–22.1)
Mississippi	23.2 (20.4–26.4)	22.7 (20.3–25.3)	12.0 (9.9–14.3) ^f	3.4 (2.4–4.8)	29.9 (26.9–33.1) ^f	23.4 (21.1–26.0)
Texas	16.7 (15.2–18.3) ^f	12.5 (11.3–13.7)	6.7 (5.8–7.7) ^f	1.8 (1.4–2.5)	20.5 (18.9–22.1) ^f	12.4 (11.3–13.6)

CI = confidence interval.

^f Chi-square test assessed for differences between males and females; significant level $p < 0.05$.

Table 3: Prevalence of Any Adult Tobacco Use, by Race/Ethnicity - BRFSS - Louisiana and Neighboring States, 2014

	Any Cigarette and/or Smokeless Tobacco Use Percentage (95% CI)			
State	White (non-Hispanic)	Black (non-Hispanic)	Hispanic	Non-Hispanic Other
Alabama	26.2 (24.6–27.9)	20.8 (18.3–23.6)	— ^f	19.5 (13.9–26.6)
Arkansas	28.3 (26.1–30.7) ^f	27.5 (22.4–33.2)	15.1 (8.1–26.2)	30.4 (21.8–40.6)
Florida	19.8 (18.4–21.2) ^f	15.8 (12.8–19.4)	14.3 (11.9–17.1)	19.8 (14.8–26.0)
Louisiana	27.2 (25.6–29.0)	25.2 (22.7–27.9)	18.5 (12.3–27.0)	27.5 (20.8–35.5)
Mississippi	29.7 (27.1–32.4)	23.6 (20.6–26.8)	— ^f	— ^f
Texas	19.2 (17.8–20.7) ^f	14.6 (11.6–18.1)	13.7 (12.2–15.4)	13.4 (9.6–18.3)

CI = confidence interval.

^f Estimates not presented because of relative standard error $> 30\%$.

^g Chi-square test assessed for differences between males and females; significant level $p < 0.05$.

The significantly higher prevalence of tobacco use among males and some racial/ethnic groups in several states underscores the importance of implementing comprehensive tobacco control and prevention interventions to reduce tobacco use and tobacco-related disparities across states. Some interventions include: increasing tobacco product prices; implementing and enforcing comprehensive smoke-free laws; warning about the dangers of tobacco use through mass media campaigns; and increasing access to evidence-based behavioral counseling and FDA-approved medication.

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School-Related Environmental Exposures: Louisiana, 2006-2015

Rosalind M. Green, ScD

In recent years, there has been an increase in public awareness of potential health effects related to releases of hazardous chemicals into the environment. Community members have become more active in advocating for their own safety and for education about what risks chemical releases pose to their communities. Particular concern has arisen about the safety of children in the school setting.

In order to identify any trends or relationships in reports of school-related environmental exposures, the Louisiana Department of Health (LDH), Office of Public Health (OPH), Section of Environmental Epidemiology and Toxicology (SEET) reviewed ten years of data from five databases. The resulting summary will be used to make recommendations for “best practices” to reduce risks of exposures.

Methodology

To compile this summary, SEET reviewed reports of school-related exposures from the following five sources:

- the Louisiana Poison Center (LPC) database;
- SEET’s database documenting calls reporting indoor environmental quality concerns to the section’s Indoor Environmental Quality program (IEQ);
- the Hazardous Materials (HAZMAT) database of reports called in to the Louisiana State Police’s HAZMAT hotline;
- the SENSOR Pesticide Incident Data Entry & Reporting (SPIDER) database, which collects and manages data on acute pesticide exposure events; and
- the National Toxic Substance Incidents Program (NTSIP) database, which funded state surveillance of hazardous substance release incidents by SEET from January 2010 - December 2013.

Each database was queried using the keyword “school” for a

10-year period ranging from January 2006 to December 2015. The query results were manually filtered to remove cases that did not fit appropriate parameters, such as cases lacking sufficient information to positively identify them as being school-related; exposures to animal-related hazards; or intentional consumption of recreational or medicinal drugs. Since the databases did not all use the same identifiers to record details of reported exposures, similar types of exposures or health effects were grouped into general categories.

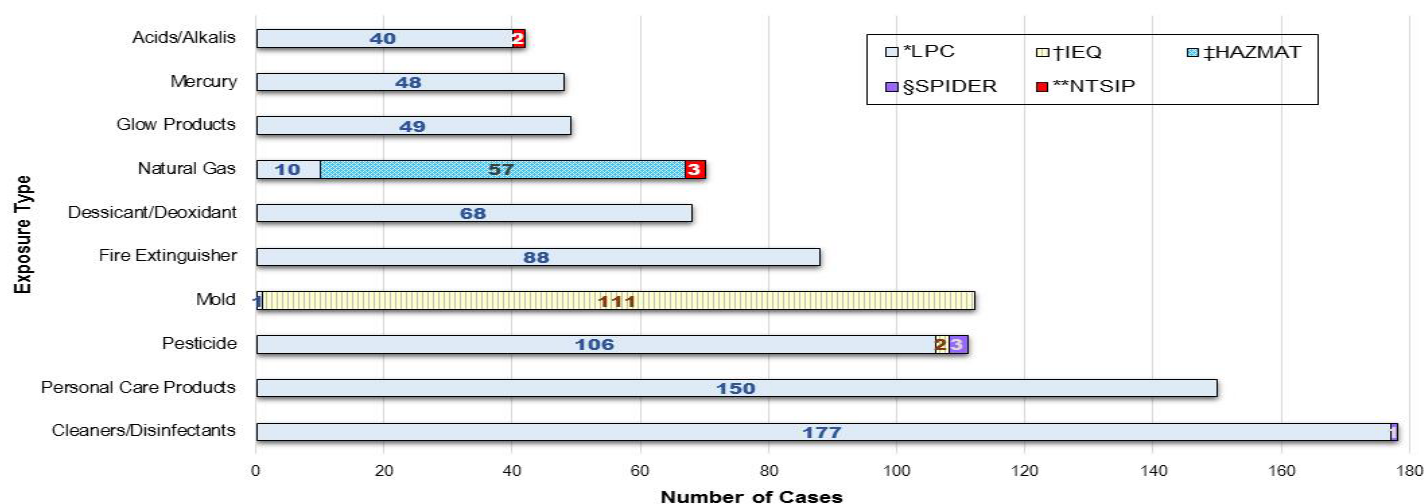
Results and Recommendations

Table 1 and Figure 1 show the most frequently reported exposures across the five databases SEET reviewed. However, examining results from each database individually revealed differences in environmental exposure frequency that were not visible in the summary across databases. This was due to the difference in sizes between query results (for example, 1,059 cases were evaluated from LPC, while only six cases from SPIDER and NTSIP fit the summary parameters).

Table 1 - Top Ten School Environmental Exposures - Louisiana, January 2006 - December 2015

	†LPC	‡IEQ	§HAZMAT	**SPIDER	††NTSIP
Cleaners/Disinfectants	177			1	
Personal Care Products	150				
Pesticide	106	2	1	3	
Mold	1	111	1		
Fire Extinguisher	88				
Dessicant/Deoxidant	68				
Natural Gas	10		60		4
Glow Products	49				
Mercury	48				
Acids/Alkalis	40				2

Figure 1 - Top Ten School Environmental Exposures - Louisiana, January 2006 - December 2015



†LPC = Louisiana Poison Center database

‡IEQ = Indoor Environmental Quality database

§HAZMAT = Hazardous Materials database

**SPIDER = SENSOR Data Pesticide Incident Entry & Reporting database

††NTSIP = National Toxic Substance Incidents Program database

As shown in Table 2, the highest number of reported school exposures occurred in OPH Administrative Region 1*, followed by Regions 2 and 5. However, Region 5 also had the lowest population average during this 10-year period. The higher than expected number of cases reported from Region 5 may be due to more frequent occurrences of school-related environmental exposures in this region, or to a higher reporting rate among school workers in this region (Figure 2).

* Map of Regions on Page 7

(continued on page 4)

(Summary of Ten Years ... continued from page 3)

Table 2 - School Environmental Exposures by OPH Administrative Regions – Louisiana, January 2006 - December 2015

	†LPC	‡IEQ	§HAZMAT	**SPIDER	††NTSIP	TOTAL
Region 1	172	20	9	2	3	206
Region 2	103	22	4		1	130
Region 3	59	21	6		1	87
Region 4	73	17	14	2		106
Region 5	110	3	10			123
Region 6	38	8	4			50
Region 7	64	13	13			90
Region 8	36	5	11	2		54
Region 9	60	11	4		1	76
Grand Total	715	120	87	6	6	934

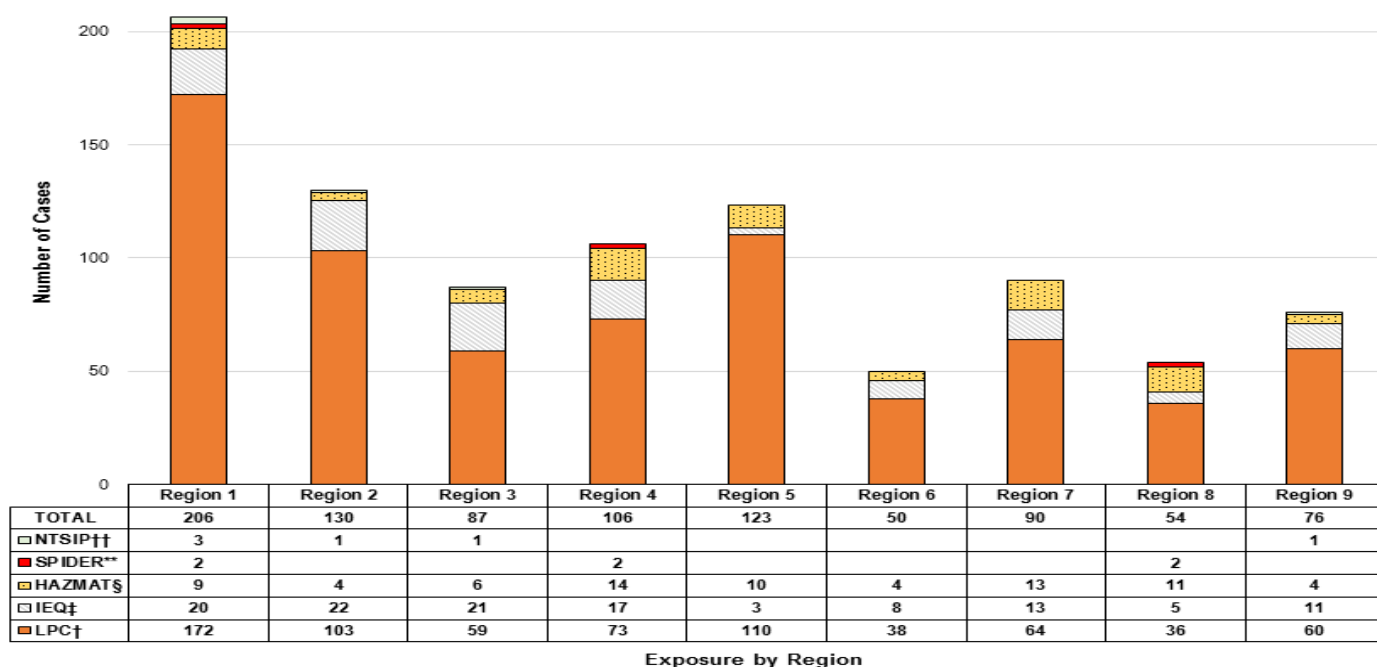
Ingestion was the route of exposure most often identified in the reviewed cases. When communicating information about how to

prevent or minimize environmental exposures, SEET emphasizes that children often engage in hand-to-mouth activities. Therefore, recommendations for minimizing chemical exposures in school settings should reinforce the oral (by mouth) route as an important pathway of potential exposure to chemicals for children.

SEET will continue to monitor reports of school-related environmental exposures and to do outreach through the development and distribution of materials that promote safety and well-being in school settings. The results of this summary will allow SEET to refine its data collection process for documenting these exposures and to more effectively deliver information to school officials, employees, and other interested parties to minimize the occurrence and impact of these exposures.

For more information, contact Dr. Green at (504)568-8814 or rosalind.green@la.gov.

Figure 2 - School Environmental Exposures by OPH Administrative Regions – Louisiana, January 2006 - December 2015



†LPC = Louisiana Poison Center database

‡IEQ = Indoor Environmental Quality database

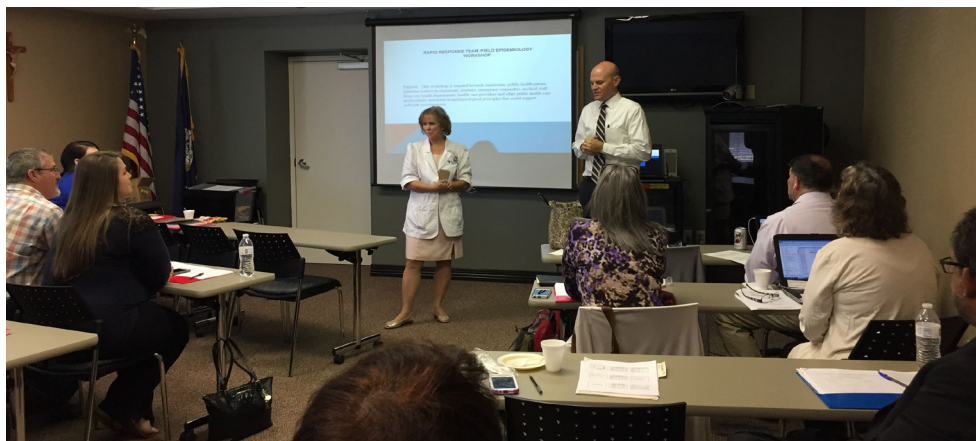
§HAZMAT = Hazardous Materials database

**SPIDER = SENSOR Data Pesticide Incident Entry & Reporting database

††NTSIP = National Toxic Substance Incidents Program database

Rapid Response Team (RRT) / Field Epidemiology (FET) Workshop

Photo: Rene Ragas, CEO of Our Lady of the Angels Hospital, Bogalusa with Janice Augustine, Infection Preventionist greeting workshop attendees on October 12, 2016



(Feral Hogs ... continued from page 1)

of at-risk meats, especially when undercooked. Serology and, less frequently, muscle biopsy are used for confirmation. Leukocytosis occurs in a majority of, but not all, patients and a profound eosinophilia appears about 10 days after infection, with a peak at three to four weeks post infection.

The drugs of choice for treating trichinellosis are albendazole (400 mg. twice per day orally for eight to 14 days) or mebendazole (200 to 400 mg. three times per day orally for three days followed by 400 to 500 mg. three times per day orally for 10 days). The drugs are most effective when given within the first few weeks of infection. Once larvae are established in muscle, prolonged or repeated courses of therapy may be necessary. Both albendazole and mebendazole have been associated with bone marrow suppression, and neither drug is approved for use in pregnancy or in children younger than two years of age. In cases with symptoms related to muscle involvement, corticosteroids are often also required to ameliorate symptoms.

Louisiana has had significant problems with trichinellosis in the past, and some of the problems stemmed from improper preparation of Louisiana's traditional meat products, such as smoked sausage and boudin. With increased popularity of feral hog hunting, there is concern that meat from feral hogs will be utilized more commonly in preparation of these and other foods.

Several relatively large outbreaks have been documented by health officials. In 1961, 11 cases were reported from Rapides Parish. In 1979, 10 cases were reported from Allen Parish, with nine other linked cases reported from Beauregard, Calcasieu, and Rapides Parishes. Also in 1979, five cases reported from Beauregard and Calcasieu Parishes could not be linked epidemiologically. In 1980, 15 cases were identified in Evangeline and Jefferson Davis Parishes. Ten of these cases required hospitalization; one patient died. It was the first death attributed to trichinellosis in Louisiana in 25 years, and the last reported death in our state from the disease to date. The patient that died had reported a history of preparing and consuming pork sausage. Ten of the patients recalled eating undercooked sausage that had been prepared using the "smoking" process. Several instances where mixed raw sausage contents were tasted to ensure the correct mix of seasonings were also reported. In 1993, three epidemiologically linked cases were reported to have been precipitated by consumption of sausage prepared from the meat of hogs that had "run loose in the woods." The last case of trichinellosis was reported in 2011, and occurred in an avid deer hunter, although no association with undercooked pork could be established.

The successful reduction of the parasite in commercial pork is due to a combination of several strategies, including rodent control,

regulations on types and methods of preparation of animal feeds, prevention of cannibalism, and separation from wildlife. Although the prevalence of *Trichinella* in commercial pork products has been significantly reduced, all non-cooked and improperly-cooked pork products should still be regarded as potentially infectious. Guidelines for cooking pork, as established by the Centers for Disease Control and Prevention (CDC) and the USDA, should be followed in order to kill any parasites or pathogens in pork destined for the table. Because feral swine meat is generally harvested and prepared much differently by hunters in the field than by commercial pork producers, the risk of contracting trichinellosis (and other diseases) for those who handle "wild" meat is assumed to be much greater.

Generally, prevention of trichinellosis is accomplished through use of gloves and other personal barriers, avoidance of tasting uncooked meat while seasoning, prevention of cross contamination of other foods, and thorough cooking of meat from potential hosts (Table).

Table: Recommended Safe Cooking Temperatures for Meat for Disease Prevention - CDC and USDA

Type of Meat	Appropriate Temperature
Whole cuts of meat (excluding poultry and wild game)	145°F (63°C)
Ground meat (including wild game, but excluding poultry)	160°F (71°C)
All wild game (whole cuts and ground, including feral swine)	160°F (71°C)
Poultry (whole cuts and ground)	165°F (74°C)

A food thermometer inserted in the center of the thickest part of the meat should be used. For all whole cuts of meat, game, or poultry, allow a three minute rest time before carving or consuming.

For prevention of zoonotic diseases, hunters should also exercise additional precautions when dressing and cleaning feral hogs or other animals. Rubber gloves should be worn when handling or butchering game, especially if cuts, scratches, or other lesions are present on the hands or arms. Eye protection, such as glasses or goggles, should be worn to prevent splashes to the eyes. Hunters should avoid contact with carcasses found in the environment. Handling of brain and spinal tissue should be avoided. Animals that appear ill should not be harvested for food or processing. Any cut, scratch, or other wound acquired during the cleaning and butchering process should be washed thoroughly with soap and clean water. Frequent, thorough hand washing is also recommended with no eating, smoking or contacting eyes while handling whole or butchered animals.

For more information, please contact Dr. Balsamo at (504)568-8315 or email gary.balsamo@la.gov. More information on feral swine diseases, biology and damage control methods can be obtained from the local USDA APHIS Wildlife Services Office (Toll Free: 1-866-4USDA-WS) and web site: <https://www.aphis.usda.gov/aphis/resources/pests-diseases/feral-swine/feral-swine-resources>.

Announcements

Multi-Drug Resistant Organisms Management in Long Term Care Facilities Workshops - 2017

Metairie - 1/26 Lafayette - 1/31 Ruston - 2/7

This is a one-day workshop sponsored by the Department of Health's, Office of Public Health, Infectious Disease Epidemiology Section. It is targeted towards infectious disease preventionists employed by long term care facilities, acute care hospitals, and other healthcare settings throughout the state, who have roles in infection surveillance and reporting.

This workshop is free to attend, but must be registered for because of seating limitations and to provide the adequate number of handouts. Nurse and laboratory education credits have been applied for.

Please go to <http://ldh.la.gov/index.cfm/page/2585> for a registration form and more information.

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

Annual: A Comparison of Rates in Louisiana & Other Southern States 1999-2014; *Haemophilus Influenzae*; Several Year Comparison 2014-2016

Antibiotic Sensitivity: The Louisiana Antibigram-2014

Arboviral: WNV Weekly Report

Epidemiology Manual: Diphtheria; *E. coli*; *E. coli* Summary; Meningitis; (Mumps) Laboratory Confirmation by IgM Serology; Mumps Summary; *Salmonella*; *Shigella*; *Shigella* Summary; *Shigella* Long Summary; Zika Key Messages-CDC; Zika Pregnancy Testing Algorithm-CDC

HAI: September 2016 Newsletter

Influenza: Weekly Report

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Louisiana Fact - Native American Medicine; 9-10/15

Louisiana Fact - At the Forefront of Modern Dentistry; 9-10/16

National Lead Poisoning Prevention Week: October 23-29, 2016; 9-10/16

Outbreak and Communicable Disease Reporting Louisiana, 2015; 7-8/15

Public Health Central Laboratory Relocation; 1-2/15

Public Health Laboratory Considerations-Potential Changes to Enteric Disease Testing Practices at Private Laboratories; 7-8/15

Revisions to Sanitary Code; 11-12/15

Mosquito-Borne:

A Human Case of Eastern Equine Encephalitis Louisiana, 2015; 7-8/15

IDEpi Question/Answer Corner (Zika); 1-2/2016

Physicians, Infectious Disease and Laboratory Personnel; 7-8/16

World Mosquito Day to Raise Awareness of the Importance of Mosquito Control; 7-8/15

Zika and Animals; 9-10/16

Zika - Confirmed and Probable Cases; United States, 2016; 9-10/16

Zika Sexual Transmission Update; 3-4/16

Non-Foodborne Outbreaks:

Cryptosporidiosis Outbreaks Associated with Inflatable Waterslides: Louisiana, 2014; 3-4 /15

Other Diseases:

Acute Flaccid Myelitis - Louisiana, 2015; 1-2/16

An Unusual Case of *Aeromonas hydrophila* Necrotizing Fasciitis: Louisiana, 2015; 5-6/16

An Unusual Case of Neisseria: Louisiana, 2016; 9-10/16

Cutaneous Leishmaniasis - An Emerging Imported Infection: Louisiana, 2015; 9-10/15

Empedobacter brevis in a Newborn: Louisiana, 2015; 5-6/16

IDEpi Question/Answer Corner (*P.aeromonas*, *Mycobacterium*); 11-12/15

Necrotizing Fasciitis – It Was Not the Tap Water: Louisiana, 2015; 9-10/15

Sexually Transmitted Diseases:

Syphilis Surveillance Update - Louisiana, 2012-2014; 3-4 /15

Tuberculosis

Tuberculosis Rate Cut Nearly in Half from 2010 to 2014 in Louisiana; 5-6/15

World Tuberculosis Day - March 24, 2015; 1-2/15

Vibrio:

Vibrio metschnikovii, A Rare Pathogen: Louisiana, 2014; 1-2/15

Note: Year and Issue Number are listed after the comma on each line - 11-12/06 = Issue Number 6 (Nov-Dec) for the Year 2015. Indices for the years 1967-2014 can be found on <http://new.dhh.louisiana.gov/index.cfm/newsroom/detail/2226>

Table: Communicable Disease Surveillance, Incidence by Region and Time Period, September-October, 2016

DISEASE	HEALTH REGION									TIME PERIOD				
	1	2	3	4	5	6	7	8	9	Sep-Oct 2016	Sep-Oct 2015	Jan-Dec Cum 2016	Jan-Dec Cum 2015	Jan-Dec % Chg*
<u>Vaccine-preventable</u>														
Hepatitis B Cases	0	1	1	0	0	0	1	0	0	3	17	37	72	-48.6
Hepatitis B Rate ¹	0	0.2	0.3	0	0	0	0.2	0	0	0.1	0.4	0.9	1.7	NA*
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Mumps	0	1	0	0	0	0	0	0	0	1	0	1	0	NA*
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Pertussis	0	0	1	0	0	0	7	0	0	8	8	45	39	15.4
<u>Sexually-transmitted</u>														
HIV/AIDS Cases ²	72	52	6	18	6	10	22	8	14	208	185	1043	953	9.4
HIV/AIDS Rate ¹	8.6	7.8	1.5	3.1	2.1	3.2	4.0	2.2	2.6	4.6	4.1	23	21	NA*
Chlamydia Cases ^{1,3}	1,419	770	439	644	240	285	720	603	514	5,642	5,799	26,762	26,504	1.0
Chlamydia Rate ¹	158.6	112.9	108.1	105.9	80.2	93.1	131.9	169.8	89.6	120.8	124.2	573.0	567.4	NA*
Gonorrhea Cases ^{1,3}	456	272	150	207	74	131	228	219	153	1,895	1,834	9,429	8,416	12.0
Gonorrhea Rate ¹	51.0	39.9	36.9	34.0	24.7	42.8	41.8	61.7	26.7	40.6	39.3	201.9	180.2	NA*
Syphilis (P&S) Cases ^{1,3}	49	16	12	17	4	12	25	4	2	141	131	593	573	3.5
Syphilis (P&S) Rate ¹	5.5	2.3	3.0	2.8	1.3	3.9	4.6	1.1	0.3	3.0	2.8	12.7	12.3	NA*
<u>Enteric</u>														
Campylobacter Cases	2	4	13	11	0	11	3	2	8	54	26	229	185	23.8
Hepatitis A Cases	0	0	1	0	1	0	0	0	0	2	0	11	3	266.6
Hepatitis A Rate ¹	0	0	0.3	0	0.4	0	0	0	0	0	0	0.3	0.1	NA*
Salmonella Cases	29	39	20	61	33	27	31	27	38	305	345	1148	1169	-1.8
Salmonella Rate ¹	2.8	6.9	5.3	11.8	12.3	8.9	6.1	7.7	9.9	7.1	8.0	26.6	27.1	NA*
Shigella Cases	7	4	29	6	0	2	5	4	5	62	55	315	179	76.0
Shigella Rate ¹	0.7	0.7	7.7	1.2	0.0	0.7	1.0	1.1	1.3	1.4	1.3	7.3	4.1	NA*
Vibrio, cholera Cases	0	0	0	0	0	0	0	0	0	0	0	0	0	NA*
Vibrio, other Cases	0	1	2	2	0	0	0	0	2	7	7	42	47	-10.6
<u>Other</u>														
<i>H. influenzae (other)</i>	1	2	1	0	0	1	1	0	1	7	7	44	48	NA*
<i>N. Meningitidis</i>	0	0	0	0	0	0	0	0	0	0	0	2	4	NA*

¹ = Cases Per 100 000 Population.

² = These totals reflect people with HIV infection whose status was first detected during the specified time period. This includes people who were diagnosed with AIDS at the time HIV first was detected. Because of delays in reporting HIV/AIDS cases, the number of persons reported is a minimal estimate. Data should be considered provisional.

³ = Preliminary data.

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

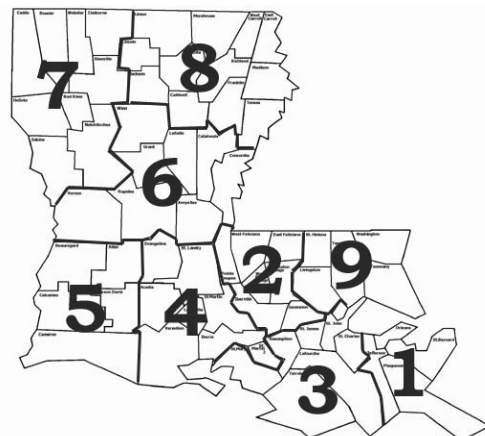
Table 2. Diseases of Low Frequency, January-December, 2016

<u>Disease</u>	<u>Total to Date</u>
Legionellosis	26
Lyme Disease	4
Malaria	11
Rabies, animal	3
Varicella	59

Table 3. Animal Rabies, Sep-Oct, 2016

<u>Parish</u>	<u>No. Cases</u>	<u>Species</u>
St. Tammany	1	Bat

Figure: Department of Health 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 shellfish poisoning, ciguatera, paralytic shellfish poisoning, 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 infection)	Q Fever (<i>Coxiella burnetii</i>)	Staphylococcal Enterotoxin B (SEB) Pulmonary Poisoning
Botulism	Influenza-associated Mortality	Rabies (animal and human)	Tularemia (<i>Francisella tularensis</i>)
Brucellosis	Measles (Rubeola imported or indigenous)	Ricin Poisoning	Viral Hemorrhagic Fever (Ebola, Lassa, Marburg, Crimean Congo, etc.)
Cholera	<i>Neisseria meningitidis</i> (invasive infection)	Rubella (congenital syndrome)	Yellow Fever
<i>Clostridium perfringens</i> (foodborne infection)	Outbreaks of Any Infectious Disease	Rubella (German Measles)	
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)	Chagas Disease	Hepatitis B (perinatal infection)	Mumps
Anaplasmosis	Chancroid	Hepatitis E	Salmonellosis
Arthropod-Borne Viral Infections (West Nile, Dengue, St. Louis, California, Eastern Equine, Western Equine, Chikungunya, Usutu, and others)	<i>Escherichia coli</i> , Shiga-toxin producing (STEC), including <i>E. coli</i> O157:H7	Herpes (neonatal)	Shigellosis
Aseptic Meningitis	Granuloma Inguinale	Human Immunodeficiency Virus ² [(HIV), infection in pregnancy]	Syphilis ⁴
Babesiosis	Hantavirus (infection or Pulmonary Syndrome)	Human Immunodeficiency Virus ² [(HIV), perinatal exposure]	Tetanus
	Hemolytic-Uremic Syndrome	Legionellosis	Tuberculosis ³ (due to <i>M. tuberculosis</i> , <i>M. bovis</i> , or <i>M. africanum</i>)
	Hepatitis A (acute illness)	Malaria	Typhoid Fever
	Hepatitis B (acute illness and 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 ³ (AIDS)	Giardiasis	Listeriosis	Staphylococcal Toxic Shock Syndrome
<i>Anaplasma Phagocytophilum</i>	Glanders (<i>Burkholderia mallei</i>)	Lyme Disease	Streptococcal Disease, Group A (invasive disease)
Blastomycosis	Gonorrhea ⁴ (genital, oral, ophthalmic, pelvic inflammatory disease, rectal)	Lymphogranuloma Venereum ¹	Streptococcal Disease, Group B (invasive disease)
Campylobacteriosis	Hansen's Disease (leprosy)	Melioidosis (<i>Burkholderia pseudomallei</i>)	Streptococcal Toxic Shock Syndrome
Chlamydial infection ¹	Hepatitis C (acute illness)	Meningitis, Eosinophilic (including those due to <i>Angiostrongylus</i> infection)	<i>Streptococcus pneumoniae</i> , invasive disease
Coccidioidomycosis	Histoplasmosis	Nipah Virus Infection	Transmissible Spongiform Encephalopathies (Creutzfeldt-Jacob Disease & variants)
Cryptococcosis (<i>C. neoformans</i> and <i>C. gattii</i>)	Human Immunodeficiency Virus ² (HIV) (infection other than as in Class B)	Non-gonococcal Urethritis	Trichinosis
Cryptosporidiosis	Human T Lymphocyte Virus (HTLV I and II infection)	Ophthalmia neonatorum	Varicella (chickenpox)
Cyclosporiasis	Leptospirosis	Psittacosis	<i>Vibrio</i> Infections (other than cholera)
Ehrlichiosis (human granulocytic, human monocytic, <i>E. chaffeensis</i> and <i>E. ewingii</i>)		Spotted Fevers [<i>Rickettsia</i> species including Rocky Mountain Spotted Fever (RMSF)]	Yersiniosis
<i>Enterococcus</i> , Vancomycin Resistant [(VRE), invasive disease]		<i>Staphylococcus aureus</i> (MRSA), invasive infection	

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

Cancer	Heavy Metal (arsenic, cadmium, mercury) Exposure and/or Poisoning (all ages) ⁵	Phenylketonuria ⁴	Severe Traumatic Head Injury
Carbon Monoxide Exposure and/or Poisoning ⁵	Hemophilia ⁴	Pneumoconiosis (asbestosis, berylliosis, silicosis, byssinosis, etc.)	Severe Undernutrition (severe anemia, failure to thrive)
Complications of Abortion	Lead Exposure and/or Poisoning (all ages) ^{4,5}	Radiation Exposure, Over Normal Limits	Sickle Cell Disease ⁴ (newborns)
Congenital Hypothyroidism ⁴	Pesticide-Related Illness or Injury (all ages) ⁵	Reye's Syndrome	Spinal Cord Injury
Galactosemia ⁴			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), facsimile (504) 568-8290, telephone (504) 568-8313, or (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 form TB 2431 (8/94). Mail form to TB Control Program, DHH-OPH, P.O. Box 60630, New Orleans, LA. 70160-0630 or fax both sides of the form to (504) 568-5016

⁴Report to the Louisiana Genetic Diseases Program and Louisiana Childhood Lead Poisoning Prevention Programs: www.genetics.dhh.louisiana.gov or facsimile (504) 568-8253, telephone (504) 568-8254, or (800) 242-3112

⁵Report to the Section of Environmental Epidemiology and Toxicology: www.seet.dhh.louisiana.gov or call (225) 342-7136 or (888) 293-7020

All **laboratory facilities** shall, in addition to reporting tests indicative of conditions found in §105, report positive or suggestive results for additional conditions of public health interest. The following findings shall be reported as detected by laboratory facilities: 1. adenoviruses; 2. coronaviruses; 3. enteroviruses; 4. hepatitis B (carriage other than in pregnancy); 5. hepatitis C (past or present infection); 6. human metapneumovirus; 7. parainfluenza viruses; 8. respiratory syncytial virus; and 9. rhinoviruses.