Tuberculosis in Louisiana
2003 Update

Charles DeGraw, BA

The incidence of tuberculosis in Louisiana is slightly higher than the average incidence in the United States. As in the U.S., incidence (new reported case rate) decreased progressively - with a short upsurge from 1994 to 1996. (Figure 1)

Figure 1: Incidence of Tuberculosis, Louisiana and the United States 1980-2003

The most striking feature of tuberculosis epidemiology in Louisiana is the vast disparity in tuberculosis incidence in gender, ethnic groups and geography.

Gender

In older age groups, incidence is close to three-times higher among males than among females while throughout the world the difference is two-fold.

Ethnic Groups and Geography

Major disparities are seen among ethnic groups. Incidence among Whites has slowly decreased from 9.1 per 100,000 in 1980 to 3.0 per 100,000 in 2003. Incidence among African-Americans also decreased from 22.4 per 100,000 in 1980 to 9.6 per 100,000 in 2003. Incidence among Asians has been hectic with dramatic variations from year to year: highs of 46.8 per 100,000 in 1980, 43.6 per 100,000 in 2000 and lows of 12.3 per 100,000 in 1992. In 2003 the incidence among Asians was 36.2 per 100,000.

The geographical distribution of TB by parish shows low rates throughout the state except for Orleans Parish. (Figure 3.) High rates are noted in some parishes.

Figure 3: Geographical Distribution of Tuberculosis per 100,000 Louisiana, 1999-2003

Incidence maps do not necessarily represent the case load carried by the TB Surveillance Program staff. Case loads are in fact, more concentrated than is indicated by the incidence on the map, since two-thirds of the cases come from six parishes (180 out of 290 cases per year for the period 1999-2003 from Orleans, Caddo, Calcasieu, East Baton Rouge, Jefferson, Lafayette and Ouachita).

(Continued on page 3)
Screening Babies
Charles Myers, GSW

The state mandated newborn heel stick screening and follow-up (R.S. 40:1299.1, et seq and LAC 48.V.6303) ensures that all newborns are screened before discharge from the hospital. Currently the screening battery consists of tests for phenylketonuria (PKU), congenital hypothyroidism, sickle cell disease, biotinidase deficiency and galactosemia (Table 1).

A newborn testing positive for any of these diseases is immediately referred for specialized care which will prevent many (and in some disorders, all) of the serious clinical symptoms. When untreated, mental retardation is associated with the above mentioned metabolic diseases. For sickle cell disease, early detection and treatment prevents life threatening infections and improves general health status. For more information, please contact the GENETIC DISEASES PROGRAM at (504) 568-7723 or (504) 568-5070.

Table 1: Newborn Screening Detection, Louisiana 2000-2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Congenital Hypothyroidism</th>
<th>Phenylketonuria (PKU)</th>
<th>Sickle-Cell Disease</th>
<th>Biotinidase Deficiency</th>
<th>Galactosemia</th>
<th>Total Births</th>
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<tr>
<td>2000</td>
<td>White</td>
<td>6</td>
<td>2</td>
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*Provisional data from Vital Records

 archaeologists and infection control precautions

In 2001, the Louisiana Army National Guard dug a ditch through what archaeologists had previously identified as a midden* associated with the Gillis W. Long Hansen’s Disease Center. The Center, now a National Guard installation, has been on the National Register of Historic Places since 1992 as the Carville Historic District in Iberville Parish.

The midden, dating roughly between 1900 and 1950 had most likely served as a communal dumping ground for the leperosarium. To mitigate any damage caused by the digging, the Cultural Resource Office of the School of Social Services from Northwestern State University in Natchitoches, Louisiana, systematically gridded the disturbed area and collected all material on the ground surface for later cleaning, cataloging, identification and presentation. The university lab staff, anxious about contracting Hanson’s disease from the artifacts, used bleach as a cleaning agent prior to working with the materials and looked for further advice.

The risk of contracting a disease from archaeological activities is very low. Most human pathogens do not survive very long in a dry soil environment. Tuberculosis and leprosy bacilli particularly, are not transmitted by soil and dust. However, soil may contain some pathogens (e.g. pathogens from the feces of animal in soil still moist and recently collected or spores from a few species of bacteria in dried soil). Anthrax spores in soil are not very infectious. (Farmers in areas with anthrax do develop cutaneous anthrax when they care for their animal but do not develop inhalational anthrax.) Soil also contains atypical mycobacteria which are usually not pathogenic under normal circumstances.

Archaeologists would be at a low risk of transmission of these pathogens by either hand or by dust particles. To reduce this risk, recommended infection control measures are:

1) Wash hands, wear gloves and wash hands after removing gloves
2) Any cuts should be washed immediately with soap and water and treated with a disinfectant
3) Soak materials to be cleaned (e.g. toothbrushes used to remove soil from artifacts), in diluted bleach solution. The bleach inactivates viruses and vegetative forms of bacteria and modifies physical properties so that dust particles will not be formed.
4) When using brushes or any process that will create droplets, wear a face shield to avoid droplets from landing on the face.
5) When rinsing, use a gentle flow of water so as not to create splashes.
6) At the end of the process, thoroughly wash hands, forearms and face with soap and water.

* a refuse heap
As expected, high case loads are found mostly in the cities, with one-third of the cases being from Orleans and Jefferson parishes.

The maps for distribution of the disease among African-Americans demonstrates a much higher rate in some parishes. (Figure 4.)

Foreign-born

Louisiana still has relatively high TB incidence rates among the indigenous population. Foreign-born represent only a small fraction of these cases (increasing from 10% to 15% in recent years). In 2003, there were thirty-five cases among foreign-borns (out of a total of 260 cases). The largest group of foreign-born remains Vietnamese (twelve out of the thirty-five foreign-born cases in 2003), with no other group standing out (Latin America - 7 cases, other Southeast Asian countries - 10 cases). Most foreign-born cases reside in large cities (New Orleans, Baton Rouge, Lafayette and Shreveport) and in the Lafayette area where large numbers of Vietnamese have settled. Half of the cases among the Vietnamese occur within five years of their entry into the United States. Cases occur among all age groups, particularly among young adults but not as much among older age groups.

Co-Infection

HIV infection is present among 17% of new TB cases. Most co-infected cases occur among men (83% of all cases) with males 25 to 44 years of age representing 56% of cases and males 45 to 65 years of age representing 26% of cases. Most co-infection cases are concentrated in the New Orleans and Baton Rouge areas. A few co-infections may have been missed since testing among TB cases is not complete. HIV testing of TB cases increased from 50% of TB cases in 2000 to 72% in 2002 and was 70% in 2003.

The proportion of pulmonary cases with HIV infection was as low as 35% but since 1999 it has increased steadily to reach 65% in 2002 and 55% in 2003. The proportion of smear positive among HIV negative pulmonary cases range from 55% to 75%. This dispels the myth that HIV pulmonary cases are not infectious.

The proportion of homeless cases ranged from 2% to 10% from 1993 to the present, with a slight increasing non-significant trend (slope +0.16 cases per year, p=0.13). Most homeless cases are in Orleans Parish (56% of all cases).

Clinical picture

The majority (88%) of cases are pulmonary. Among the extra-pulmonary cases, the most common are lymphatic (35%) and pleural (27%), followed by other locations (genito-urinary, bone and joint, meningeal, peritoneal and mililiary) each in the range of 1% to 8% of total cases.

About 50% of pulmonary cases are confirmed by a positive sputum smear and culture. These are the most infectious cases, responsible for most of the tuberculosis transmission. An additional 20% of pulmonary cases have a negative sputum smear but a positive culture. Finally, an additional 10% do not produce sputum naturally. (However, Mycobacterium tuberculosis has been cultured on a specimen obtained by sputum induction or bronchial lavage for those cases that don't produce sputum naturally.) In total, 80% of all pulmonary tuberculosis cases are bacteriologically confirmed, which meets the accepted standard.

Fifty-five percent of cases confirmed by bronchial lavage had no result for natural or induced sputum. (It is important to stress that the recommended approach to diagnose active pulmonary tuberculosis in a patient who does not produce natural sputum is to perform sputum induction before bronchoscopy and bronchial lavage.)

Seventy percent of extra-pulmonary tuberculosis is confirmed bacteriologically.

Treatment Regimen, Sensitivity to Antibiotics and Response to Treatment

Almost eighty percent of cases are now started on the standard treatment regimen of INH, rifampin, PZA and ethambutol. An additional 18% are started on INH, rifampin and PZA. Most of the cases that do not use ethambutol are among children because pediatricians are often reluctant to use ethambutol for young children. Other regimens are only used when intolerance or resistance are present.

Presently, primary resistance to anti-tuberculous agents is not a major problem, but development of resistance needs to be monitored carefully. Primary resistance to INH is at 4.5%, varying from year to year from 2% to 6%. Above the 4% threshold, the use of four drugs (INH, RIF, PZA, EMB) is preferred over the use of only the first three drugs (INH, RIF, PZA). Resistance to INH and rifampin (commonly named MDR or multi-drug-resistant) is still rare (0 to 1 case per year).

Acquired resistance is rare. In Louisiana, over the past eight years, among patients who were sensitive to all drugs at onset of treatment: eight cases acquired resistance to INH, two to rifampin, one to INH/rifampin, five to a combination of drugs. Among those who were resistant to rifampin at onset of treatment, two developed INH resistance. This remarkably low development of resistance during treatment is probably the result of close monitoring of cases and directly observed therapy.

Alert

“The Food and Drug Administration (FDA) has determined that tuberculosis (TB) disease is a potential adverse reaction from treatment with the tumor necrosis factor-alpha (TNF-α) antagonists infliximab (Remicade®), etanercept (Enbrel®), and adalimumab (Humira®).... These products work by blocking TNF-α, an inflammatory cytokine, and are approved for treating rheumatoid arthritis and other selected autoimmune diseases. TNF-α is associated with the immunology and pathophysiology of certain infec-
tious diseases, notably TB; blocking TNF-α can allow TB disease to emerge from latent *Mycobacterium tuberculosis* infection.

In 2002, a California county health department reported three cases of TB disease occurring in association with infliximab therapy.” (The complete report which summarizes those cases, nine subsequently reported cases and provides interim recommendations for TB prevention and management in recipients of these blocking agents, can be found in CDC MMWR Vol 53, # 30 - 8/6/04.) “Health-care providers should take steps to prevent TB in immunocompromised patients and remain vigilant for TB as a cause of unexplained febrile illness.”

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**TB Strain with Strong Persistence and with Highly Efficient and Rapid Transmission - Louisiana, 2004**  
*Peter Vranken, RN DPH MBA MS(C)*

The Louisiana Office of Public Health, Tuberculosis (TB) Control Program identified a cluster of TB cases infected with the same organism, identified through Restriction Fragment Length Polymorphism (RFLP) finger printing. These cases were highly infective, with multiple failures of Directly Observed Therapy (DOT) for Latent TB Infection (LTBI) with Isoniazid (H) and had extremely virulent and rapidly transmitting organisms.

The source case, Case A, identified in November 1998, was diagnosed with sputum smear positive TB and was started on a standard adult treatment regimen (HRZE). Treatment compliance was adequate, recovery was satisfactory, sputum smear conversion occurred within the first two months and the patient was considered cured upon completion of six months of DOT. Six household contacts and five non-household contacts of Case A were evaluated using Mantoux tuberculin testing, with infection rates of 100% (6 / 6) and 60% (3 / 5) respectively. All contacts with LTBI were treated with Isoniazid (H) for six to nine months.

In July 1999, Case B, (one of Case A’s children who was a member of the household), was diagnosed with sputum smear positive TB with the same organism. A standard adult treatment regimen (HRZE) was used. Treatment compliance was adequate, recovery was satisfactory, sputum smear conversion occurred within the first two months and the patient was considered cured upon completion of six months of DOT.

In November 1999, Case A was re-diagnosed with sputum smear positive TB, once more with the same TB organisms. It is not clear whether relapse was due to re-activation of previous disease or re-infection from Case B. Case A was re-treated with PAS (A) and Ciprofloxacin (C) in addition to the standard drugs (HRZE). Once again, treatment compliance was adequate, recovery was satisfactory, sputum smear conversion occurred within the first two months and the patient was considered cured upon completion of eight months of DOT. Six additional non-household contacts of Case A were investigated, with an infection rate of 88% (5 / 6). Once again, all contacts with LTBI were treated with Isoniazid (H) for six to nine months.

In February 2004, Case C, (one of Case A’s grandchildren living in the same household), was diagnosed with sputum smear positive TB. The same organisms were identified. Case C is currently on DOT (HRZS), is recovering well and sputum smear converted within the first two months. Of the five household contacts to Case C who were investigated, all were infected with an infection rate of 100% (5/5). In addition, an infection rate of 55% (31/55) was found in high-risk non-household contacts. In low-risk non-household contacts however, the infection rate was as low as 2% (1/52). Once again, all contacts with LTBI were treated with Isoniazid (H) for six to nine months.

Recently, three more cases were diagnosed with sputum smear positive or culture positive TB, due to the same organism. They are summarized as follows:

- In February 2004, Case D, a step-grandparent and household contact of Case C, was diagnosed with culture positive TB.
- In May 2004, Case E was diagnosed with sputum smear positive TB. Case E was never identified as a contact to Case C. However, after RFLP matching, both cases were linked, with a less than three hours exposure. Case E is known to be HIV positive.
- Also in May 2004, Case F was diagnosed with culture positive TB. Again, Case F was not identified as a contact to Case C. After RFLP matching, however, Case F was also linked to Case C and had occasional exposures, totaling less than four hours per month. Case F is also known to be HIV positive.

This case review shows that, in spite of prompt diagnosis and appropriate treatment of the cases, thorough contact identification and investigation and adequate treatment for LTBI with Isoniazide (H), transmission of infection and occurrence of disease persisted. Infection rates for Case A and Case C were 100% in high-risk household contacts and were consistently high, even in high-risk non-household contacts. The failure of Isoniazide (H) treatment for LTBI to prevent disease, at least in Case C and possibly in Case B, illustrates the known fact that, however useful, Isoniazid (H) treatment for LTBI is only 85% effective at preventing disease.

Documented transmission to Case E and F, both HIV-infected, was the result of very limited and short contact with Case C. This is a very important finding. Even with an extremely timely and thorough TB contact investigation, this type of ‘almost casual’ exposure will invariably be missed. A very high index of suspicion for HIV-infected contacts is obviously warranted, but in reality the HIV status of contacts is often not known or not disclosed. As a result, it is advisable that all known HIV-infected persons, being highly susceptible to TB infection, have routine and regular tests for LTBI and TB disease. Treatment for LTBI is recommended for all co-infected persons. Timely assessment of risk and adequate prevention of TB will unquestionably improve the health and prolong the lives of HIV-infected persons.
**OPH Training Offerings**

The course offerings listed are free of charge but must be registered for as seating is limited. For site information, a registration form and agenda, please email Louise Bellazer at lbellaz@dhh.la.gov or call (504) 568-5005 x102.

**IN-HOUSE TRAINING**

**FET I & II**

The Infectious Disease Epidemiology Section will repeat the Field Epidemiological Techniques I and II classes on October 12 – 13, 2004. This training will be targeted towards sanitarians, public health nurses, infection control professionals, disease surveillance specialists, epidemiologists, health care providers and other public health care professionals interested in epidemiological principles and outbreak investigations. This workshop will take place at the State Office Building in New Orleans. There is a separate registration form for each day. Registration Deadline is September 30th!

**VIDEOCONFERENCE COURSES**

**A Lost War? - An Update on Antibiotic Resistance in Louisiana – Catrin Jones-Nazar, MD, MPH**

The OPH Infectious Disease Epidemiology Section is offering a videoconference focusing on antimicrobial resistance. This videoconference is targeted towards public health nurses, infection control professionals, disease surveillance specialists, epidemiologists, health care providers, pharmacists, veterinarians and other public health staff. It will be accessible at nine sites throughout Louisiana on November 10, 2004 from 9:00 AM- Noon. Applications have been placed for Continuing Education Units. Registration Deadline is October 18th!

**Grand Rounds**

The following videoconferences will be accessible in all regions of the state from Noon to 1:00 P.M. For more information, please contact Gail Hollis at gahollis@dhh.la.gov or call (504) 568-7233.

Nov. 18, 2004 - Dolinda Werling-Baye, RD, CDE  
**Diabetes Management & Prevention**

Dec. 16, 2004 - Rodney Wise, MD  
**Prematurity - Etiology & Impact**

**Suspicious Substance Guidelines**  
(Biological Agent Exposures)

Stacy Hall, MSN

All suspicious events or items need to be evaluated by local law enforcement under the guidance of the Louisiana State Police HAZMAT. In most areas of the state, 911 is the way to contact law enforcement.

Guidelines for mail or items suspected of containing biological agents include leaving the area as quickly as possible. Do not touch, shake, taste, smell or look at the suspicious substance more closely. If you have handled the item, put it down on a stable surface. Leave the area and encourage others to do so. Secure the entry so no further potential exposures occur. Wash all exposed skin, such as hands, arms, face and neck with soap and water. Notify law enforcement and remain on the premises until responders arrive. List all of the persons who may have been exposed as well as their contact information.

There is no need to seek medical care for an exposure. Presumptive test results are usually available within four hours of sample submission to the State Laboratory. There is time for preventative medications to be given appropriately. A biological agent has yet to be detected from the 1315 samples tested in Louisiana since October, 2001.

**Infectious Disease Surveillance Specialists (DSS) and Hospital Nurse Coordinator Meeting July 28-29, 2004**

Dr. Raoult Ratard discussing a bioterrorism response with the group.
**Infant Botulism**  
*Mona Mehta, MPH*

A two-month old patient, the first-born of a thirty-one year old woman, was admitted into a hospital for “wasting”. The infant was not feeding properly and was progressively weakening. The delivery was normal and the initial examination of the new born was unremarkable. The infant was breast fed with formula supplementation. Other foods given to this infant included fruit juices, cereals and water with syrup. By the age of four weeks, the infant started to be constipated, but had no fever and no diarrhea. At the age of eleven weeks, the infant was somnolent, had difficulty feeding and was not growing properly. She was irritable, with an altered cry, poor head control, difficulty swallowing and weakness in upper and lower extremities. A week after the initial consultation, she was admitted for evaluation. An electro-myogram was inconclusive.

A diagnosis of infant botulism was made based on clinical signs and symptoms. She was treated with Botulism Immune Globulin. The child recovered. Stools and blood were submitted for detection of botulism toxin to the Centers for Disease Control through the Office of Public Health Laboratory. Type B toxin was detected in the stools. However, the source of the contamination was not identified.

**Note:** Botulism is a severe illness affecting primarily the nervous system (neuroaralytic disorder) caused by the botulism toxin produced by *Clostridium botulinum*. Botulism can be classified into the following categories: foodborne, infant, wound and undetermined.

There are seven related neurotoxins produced by the bacillus *Clostridium botulinum*. Botulism and tetanus toxins are very similar in structure and function, but differ dramatically in their clinical effects because they target different cells in the nervous system. Toxins are differentiated according to their antigenic differences: types A to G. Human botulism is almost always caused by neurotoxins A, B, E, and F. Type A botulism is found most commonly in the western part of the United States and type B is more common in Eastern USA Types C and D are associated primarily with botulism in birds and mammals. Type E is associated with fish. Almost all cases of infant botulism are caused by types A and B.

In contrast to classical foodborne botulism, (which is an intoxication due to ingestion of preformed botulinum toxin), infant botulism occurs after infants eat spore-contaminated food. The spores grow in the intestines and then release the toxin in the body. Possible sources of spores for infants are multiple, including foods and dust. In most cases the precise source is not identified. Honey has been identified as one vehicle and should not be given to children under one year of age.

Infant botulism occurs in infants younger than six months of age. It is preceded by constipation and includes lethargy, poor feeding, weak cry, diminished gag reflex, subtle ocular palsies and generalized weakness and hypotonia (eg, “floppy infant”). There is a spectrum of disease ranging from rapidly progressive (eg, apnea, sudden infant death) to mild (eg, constipation, slow feeding).

**In infant and wound botulism, the diagnosis is made by demonstrating C. botulinum organisms or toxin in feces.** Stool and blood specimens must be sent to the Central Laboratory in New Orleans to be forwarded to the Centers for Disease Control and Prevention (CDC). Stool specimens (1-2 gms) are to be collected in a clean container (no preservatives) and kept refrigerated. Serum specimens (at least 1 cc) are to be collected in a red-topped tube and either spun down and sera sent, or the whole blood sent refrigerated.

**New Orleans Bottoms Out**

A section of the Youth Risk Behavior Survey (YRBS for 2003) tabulated the percentage of high school students who participated in sufficient vigorous physical activity and sufficient moderate physical activity. New Orleans came in last place out of thirty-two states and eighteen local survey areas. (The state of Louisiana was not included under states surveyed.)

The exercise or physical activity was defined as either vigorous or moderate. Example of vigorous activities were basketball, soccer, running, swimming laps, fast bicycling, fast dancing or similar aerobic activities (those which made students sweat and breathe hard for more than or equal to twenty minutes on more than or equal to three of the seven days preceding the survey). Moderate activity examples were fast walking, slow bicycling, skating, pushing a lawn mower or mopping floors (or those which did not make students sweat and breathe hard for more than or equal to thirty minutes on more than or equal to five of the seven days preceding the survey).

There were two major ranges set up, local surveys and states. The local survey areas range for total students was 40.1 – 65.8 with a median of 54.0 an female range of 27.4 – 59.3 with a median of 44.2 and a male range of 52.4 – 71.9 with a median of 63.7.

New Orleans public schools scored at 40.1 (CI 2.5) for all, 53.7 (CI 3.5) for males and 27.4 (CI 3.0) for females. The highest scoring local area was the unified school district of San Diego, CA with a score of 65.8 (CI 1.4), males 71.9 (CI 4.6) and females 59.3 (CI 4.8). The public school system of Washington DC came in second last with a score of 44.4 (CI 3.2) males 52.4 (CI 4.0) and females 36.8 (CI 4.1).

The range for states for total students was 53.3 – 71.1 with a median of 62.8, a female range of 41.9-67.5 with a median of 57.0 and a male range of 61.9 – 75.6 with a median of 69.0. The lowest scoring state was Mississippi with a score of 53.3 (CI 3.5) males 65.5 (CI 4.7) and females 41.9 (CI 4.1) and the highest scoring state was Utah with a score of 71.1 (CI 4.9) males 74.5 (CI 7.1) and females 67.5 (CI 5.4).

In several states, the use of YRBS data has been used to support legislative proposals for improved physical activity in schools. Governor Blanco of Louisiana signed a bill on July 21, 2004, part of which encourages schools to provide at least 30 minutes a day of structured physical activity for students. Governor Blanco has also appointed a Health Care Reform Panel working with the Department of Health and Hospitals (DHH) to develop short term and long term solutions to our health care problems. “Lighten Up Louisiana” is a five month competition (August 30, 2004- January 31, 2005) that encourages Louisianians to develop healthy activity and eating habits.
Table 1. Disease Incidence by Region and Time Period

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<td>Shigella Cases</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>-31.9</td>
</tr>
<tr>
<td>Rate1</td>
<td>0.4</td>
<td>0.3</td>
<td>0.5</td>
<td>0.0</td>
<td>na</td>
</tr>
<tr>
<td>Vibrio cholera</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>na</td>
</tr>
<tr>
<td>Vibrio, other</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>-3.7</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. influenzae (other)</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>-37.5</td>
</tr>
<tr>
<td>N. Meningitidis</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-17.6</td>
</tr>
</tbody>
</table>

1 = Cases Per 100,000
2=These totals reflect persons with HIV infection whose status was first detected during the specified time period. This includes persons who were diagnosed with AIDS at time HIV was first detected.

Due to delays in reporting of HIV/AIDS cases, the number of persons reported is a minimal estimate. Data should be considered provisional.

Table 2. Diseases of Low Frequency

<table>
<thead>
<tr>
<th>Disease</th>
<th>Total to Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legionellosis</td>
<td>5</td>
</tr>
<tr>
<td>Lyme Disease</td>
<td>3</td>
</tr>
<tr>
<td>Malaria</td>
<td>4</td>
</tr>
<tr>
<td>Varicella</td>
<td>47</td>
</tr>
</tbody>
</table>

Table 3. Animal rabies (Jan-Aug)

<table>
<thead>
<tr>
<th>Parish</th>
<th>No. Cases</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Bernard</td>
<td>1</td>
<td>Pig</td>
</tr>
</tbody>
</table>
The following diseases/conditions are hereby declared reportable with reporting requirements by Class:

**Class A Diseases/Conditions - Reporting Required Within 24 Hours**

Diseases of major public health concern because of the severity of disease and potential for epidemic spread-report by telephone immediately upon recognition that a case, a suspected case, or a positive laboratory result is known. [In addition, all cases of rare or exotic communicable diseases, unexplained death, unusual cluster of disease and all outbreaks shall be reported.]

- Anthrax
- Botulism
- Brucellosis
- Cholera
- Diphtheria
- Haemophilus influenzae (invasive disease)
- Neisseria meningitidis (invasive disease)
- Plague
- Poliomyelitis, paralytic
- Q Fever
- Rubella (German measles)
- Smallpox
- Typhoid 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.

- Aseptic meningitis
- Chancroid¹
- E. Coli 0157:H7
- E. coli Enterohemorrhagic (other)
- Encephalitis, Arthropod borne
- E. Coli Enterohemorrhagic (other)
- Hepatitis B (carriage)
- Herpes (neonatal)
- Legionellosis (acute disease)
- Malaria
- Mumps
- Pertussis

**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)
- Blastomycosis
- Campylobacteriosis
- Chlamydial infection¹
- Coccidioidomycosis
- Cryptosporidiosis
- Cyclosporiasis
- Dengue
- Ehrlichiosis Hansen’s Disease (lyeospy)
- Enterovirus, Varicella Zoster Virus
- Giardia
- Gonorrhea¹
- Hansen’s Disease (leprous)
- Hepatitis A (acute disease)
- Hepatitis B (acute)
- Human Immunodeficiency Virus (HIV) infection
- Listeria
- Lyme Disease
- Lymphogranuloma Venereum¹
- Psittacosis
- Rocky Mountain Spotted Fever (RMSF)
- Syphilis
- Syphilis (Drittis)
- Typhoid Fever
- Vibriose infections
- West Nile Fever
- West Nile Infection (past or present)

**Other Reportable Conditions**

- Acquired Immune Deficiency Syndrome (AIDS)
- Blastomycosis
- Campylobacteriosis
- Chlamydial infection¹
- Coccidioidomycosis
- Cryptosporidiosis
- Cyclosporiasis
- Dengue
- Ehrlichiosis Hansen’s Disease (lyeospy)
- Enterovirus, Varicella Zoster Virus
- Giardia
- Gonorrhea¹
- Hansen’s Disease (leprous)
- Hepatitis A (acute disease)

**Case reports not requiring special reporting instructions (see below) can be reported by Confidential Disease Case Report forms (2430), facsimile, phone reports, or web base at [https://ophrrd.dhh.state.la.us](https://ophrrd.dhh.state.la.us).**

¹Report on STD-43 form. Report cases of syphilis with active lesions by telephone.

²Report on CDC72.5 (f.5.2431) card.

*Report to the Louisiana Genetic Diseases Program Office by telephone (504) 568-5070 or FAX (504) 568-7722.

**Report on DDP-3 form; preliminary phone report from ER encouraged (504) 568-2509. Information contained in reports required under this section shall remain confidential in accordance with the law.

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