TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Infectious Disease Control Unit

Epi Case Criteria Guide, 2017

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REVISIONS MADE FROM THE 2016 TO THE 2017 EPI CASE CRITERIA GUIDE

TEXAS Department of State Health Services

Changes in scope *(Tentative effective date: March 2017)*

- **Novel coronavirus causing severe acute respiratory disease…….to…….……Novel coronavirus**

Disease specific revisions: case criteria (C), description of condition (DC), laboratory confirmation tests (L) and N (Note)

- **Amebic meningitis /encephalitis, other .....DC, L, N**
- **Brucellosis .....DC**
- **Campylobacter .....N**
- **Chagas chronic, indeterminate .....C, N**
- **Chagas chronic, symptomatic .....C**
- **Cryptosporidiosis.....N**
- **Cyclosporiasis.....N**
- **Cysticercosis .....DC**
- ***Ehrlichiosis chaffeensis* .....C**
- ***Haemophilus influenzae*, invasive disease .....C**
- **Hantavirus .....L, N**
- **Hepatitis A ..... DC, C**
- **Hepatitis B .....DC, L**
- **Hepatitis B, perinatal .....C, L, N**
- **Hepatitis C .....DC**
- **Leishmaniasis .....L**
- **Listeriosis .....N**
- **Lyme disease.....C, L**
- **PAM ..... DC, C, L**
- **Rabies animal .....L**
- **Salmonellosis..... C, N**
- **Shigellosis..... C, N**
- **STEC ..... N**
- ***Streptococcus*, invasive group A (GAS)..... C, N**
- ***Streptococcus*, invasive group B (GBS) ..... C, N**
- ***Streptococcus pneumoniae*, invasive disease (IPD)..... C, N**
- **Tuberculosis..... DC, C, L**
- **Tularemia..... DC, C, L**
- **Typhoid fever ..... N**
- **Typhus fever (epidemic louse-borne)..... DC**
- **Vancomycin-resistant *Staphylococcus aureus* (VRSA) ..... N**
- **Vibrios ..... C, N**
- **Yellow fever ..... C**
- **Yersiniosis..... N**

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This document provides infectious disease information for surveillance and data entry staff. It contains a table with condition codes, condition names, and case criteria to aid in the classification and coding of conditions. It is organized alphabetically by condition name. Conditions specified as reportable in ***Title 25, Texas Administrative Code, Chapter 97, Subchapter A, Control of Communicable Diseases*** are in **bold type.** Click on a condition in the table of contents to go to the text and on the condition code to move back.

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DEFINITION OF TERMS

Clinically compatible case: Medical history and/or signs and symptoms generally compatible with the disease, as described in the clinical description

Confirmed case: A case that is classified as confirmed for reporting purposes

Epidemiologically linked case: A case in which a) the patient has had contact with one or more persons who either have/had the disease or have been exposed to a point source of infection (i.e., a single source of infection, such as an event leading to a foodborne-disease outbreak, to which all confirmed case-patients were exposed) and b) transmission of the agent by the usual modes of transmission is plausible

- A case can be considered epidemiologically linked to a laboratory-confirmed case if at least one case in the chain of transmission is laboratory confirmed.

Laboratory-confirmed case: A case that is confirmed by one or more of the laboratory methods listed in the case definition under Laboratory Confirmation Tests
While other laboratory methods can be used in clinical diagnosis, only those listed are accepted as laboratory confirmation for national and state reporting purposes.

Probable case: A case that is classified as probable for reporting purposes

Supportive or presumptive laboratory results: Specified laboratory results that are consistent with the diagnosis, yet do not meet the criteria for laboratory confirmation

Suspect case: A case that is classified as suspect for reporting purposes

Normally sterile site: Invasive diseases typically cause significant morbidity and mortality. Sterile sites include:

- Blood (excluding cord blood)
- Bone or bone marrow
- Cerebrospinal fluid (CSF)
- Pericardial fluid
- Peritoneal fluid
- Pleural fluid

The following are also considered sterile sites when certain other criteria are met:

- Internal body sites (brain, heart, liver, spleen, vitreous fluid, kidney, pancreas, lymph node or ovary) when the specimen is collected aseptically during a surgical procedure
- Joint fluid when the joint surface is intact (no abscess or significant break in the skin)

Although placentas and amniotic fluid from an intact amnion are not considered sterile sites, isolation of Group B streptococci or *Listeria* from these sites may qualify as invasive disease. Consult the Sterile Site and Invasive Disease Determination flowchart in Appendix A of the EAIDB Investigation Guidelines for more information: https://www.dshs.state.tx.us/idcu/health/infection_control/Investigation-Guidance/

Normally sterile sites do not include:

- Anatomical areas of the body that normally harbor either resident or transient flora (bacteria) including mucous membranes (e.g., throat, vagina), sputum, and skin; abscesses; or localized soft tissue infection

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ABBREVIATIONS

Laboratory Test Abbreviations

CF – Complement fixation
CLSI- Clinical and Laboratory Standards Institute
CSF – Cerebrospinal fluid
DFA – Direct fluorescent antibody
DNA – Deoxyribonucleic acid
EEG - Electroencephalogram
EIA – Enzyme immunoassay
ELISA – Enzyme-linked immunosorbent assay
HA – Hemagglutination
HI – Hemagglutination inhibition
ID – Immunodiffusion
IFA – Indirect fluorescent antibody test
IgG – Immunoglobulin G
IgM – Immunoglobulin M
IHA – Indirect hemagglutination
IHC – Immunohistochemistry
LA – Latex agglutination
MA - Microagglutination
MIC – Minimum inhibitory concentration
MRI – Magnetic resonance imaging
NAT – Nucleic acid testing
PCR – Polymerase chain reaction
PRNT – Plaque reduction neutralization test
RIBA – Recombinant immunoblot assay
RIPA – Radio-immune precipitation assay
rRT-PCR – Real-time reverse transcriptase polymerase chain reaction
WB – Western blot

Hepatitis Test Markers

Hepatitis A – HAV
- Anti-HAV – hepatitis A antibody
- Anti-HAV IgM– hepatitis A IgM antibody

Hepatitis B – HBV
- HBcAb or anti-HBc – hepatitis B core antibody
- HBc IgM or anti-HBc IgM – hepatitis B core IgM antibody
- HBeAb or anti-HBe – hepatitis B e antibody
- HBeAg – hepatitis B e antigen
- HBsAb or anti-HBs – hepatitis B surface antibody
- HBsAg – hepatitis B surface antigen

Hepatitis C – HCV
- Anti HCV – hepatitis C antibody
- HCV RNA – hepatitis C nucleic acid
- HCV NAT – hepatitis C nucleic acid testing
- HCV RIBA – hepatitis C recombinant immunoblot assay

Hepatitis D – HDV
- Anti-HDV – hepatitis D antibody

Hepatitis E – HEV
- Anti-HEV IgM – hepatitis E IgM antibody

Other Abbreviations:

ALT - Alanine transaminase
ARDS - Acute Respiratory Distress Syndrome
AST –Aspartate transaminase
CDC – Centers for Disease Control and Prevention
DSHS –Department of State Health Services
EAIDB – Emerging and Acute Infectious Disease Branch
FDA – Food and Drug Administration
ILI – Influenza-Like Illness
NDM-1 - New Delhi Metallo-beta-lactamase-1
NPDPSC - The National Prion Disease Pathology Surveillance Center
TAC- Texas Administrative Code
VHF – Viral hemorrhagic fever

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NOTES

Rickettsia Classification

The classification of *Rickettsia* into three groups (spotted fever, typhus, and scrub typhus) was based on serology. This grouping has since been confirmed by DNA sequencing except for *R. felis* which is genetically more closely related to the spotted fever group *Rickettsia*. The human pathogens are included in the following conditions. Spotted fever group rickettsioses is defined by antigenic group (spotted fever group) and vector (tick). Murine typhus contains flea-borne species of both the typhus (*Rickettsia typhi*) and spotted fever groups (*Rickettsia felis*). Epidemic typhus (*Rickettsia prowazekii*) belongs to the typhus group and is louseborne. Scrub typhus (*Orientia tsutsugamushi*, formerly classified as *Rickettsia tsutsugamushi*), a scrub typhus group species transmitted by mites, and rickettsialpox (*Rickettsia akari*), a spotted fever group species transmitted by mites, are not reportable. A table classifying rickettsial species known to cause disease in humans by antigenic group, disease, primary vector, and reservoir occurrence can be found in the Centers for Disease Control and Prevention, *Traveler's Health Yellow Book* at http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-5/rickettsial-and-related-infections.aspx.

Streptococcus Classification

Streptococci are facultatively anaerobic, gram-positive organisms that often occur as chains or pairs. There are four different classification systems for *Streptococcus* species, clinical (pyogenic, oral, enteric), hemolysis (alpha-hemolysis, beta-hemolysis, gamma-hemolysis), serological (Lancefield: A-H and K-U), and biochemical (physiological).

Lancefield group

Streptococci are subdivided into groups by antibodies that recognize surface antigens. The serologic reactivity of "cell wall" polysaccharide "C" antigens was described by Rebecca Lancefield. Twenty group-specific antigens were established, Lancefield A-H and K-U. Clinically significant Lancefield groups include A, B, C, F, and G. Some streptococci such as *Streptococcus pneumoniae* and the viridans streptococci are Lancefield group nontypeable.

Hemolytic reaction

The type of hemolytic reaction displayed on blood agar has also been used to classify the streptococci. Beta-hemolysis is associated with complete lysis of red cells surrounding the colony, whereas alpha-hemolysis is a partial or "green" hemolysis associated with reduction of red cell hemoglobin. Nonhemolytic colonies have been termed gamma-hemolytic. The property of hemolysis is not very reliable for the absolute identification of streptococci, but it is widely used in rapid screens for identification.

Reportable *Streptococcus*

Group A *Streptococcus* (GAS, *Streptococcus pyogenes*) - Lancefield Group A streptococci are nearly always beta-hemolytic.

Group B *Streptococcus* (GBS, *Streptococcus agalactiae*) - Lancefield Group B streptococci are usually beta-hemolytic, but can also be alpha or gamma hemolytic.

Streptococcus pneumoniae (pneumococcus) - Most strains of *S. pneumoniae* are alpha-hemolytic but can cause ß-hemolysis during anaerobic incubation. They are nontypeable by Lancefield group.

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CASE CRITERIA

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Acute Flaccid Myelitis 11120	An illness with onset of acute focal limb weakness. Multiple etiologic agents may case acute flaccid myelitis. *Confirmed:* An illness with onset of acute focal limb weakness AND laboratory confirmation. *Probable:* ▪ An illness with onset of acute focal limb weakness AND ▪ Cerebrospinal fluid (CSF) with pleocytosis (white blood cell count >5 cells/mm^3, may adjust for presence of red blood cells by subtracting 1 white blood cell for every 500 red blood cells present).	▪ A magnetic resonance image (MRI) showing spinal cord lesion largely restricted to gray matter* and spanning one or more spinal segments ▪ A specific pathogen is not needed to confirm the diagnosis. *Terms in the spinal cord MRI report such as "affecting mostly gray matter," "affecting the anterior horn or anterior horn cells," "affecting the central cord," "anterior myelitis," or "poliomyelitis" would all be consistent with this terminology. If still unsure if this criterion is met, consider consulting the neurologist or radiologist directly.
Amebiasis 11040	Infection of the large intestine by *Entamoeba histolytica* can vary in severity, ranging from an asymptomatic infection to mild, chronic diarrhea to fulminant dysentery. Extraintestinal infection can occur (e.g., hepatic abscess). ***Confirmed, intestinal amebiasis*:** A clinically compatible illness that is laboratory confirmed *Suspect, intestinal amebiasis*: A clinically compatible case *with E. histolytica* detected in stool by use of an antigen-based fecal immunoassay ***Confirmed, extra-intestinal amebiasis:*** ▪ A case with demonstration of the organism, *E. histolytica*, in at least one extra-intestinal tissue sample, **OR** ▪ A symptomatic person (with clinical or radiographic findings consistent with extra-intestinal infection) and demonstration of specific antibody against *E. histolytica* as measured by reliable immunodiagnostic test (e.g., EIA) and PCR based assays	**Intestinal amebiasis** ▪ Demonstration of cysts or trophozoites of *E. histolytica* in stool, **OR** ▪ Demonstration of trophozoites in tissue biopsy or ulcer scrapings by culture or histopathology **Extra-intestinal amebiasis** ▪ Demonstration of *E. histolytica* trophozoites in extraintestinal tissue

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Amebic meningitis/encephalitis, other 10096	An infection presenting as meningoencephalitis or encephalitis. Granulomatous amebic encephalitis (GAE) can include general symptoms and signs of encephalitis such as early personality and behavioral changes, depressed mental status, fever, photophobia, seizures, nonspecific cranial nerve dysfunction, and visual loss. GAE neurologic infections are generally fatal within weeks or months; however, a few patients have survived. ***Confirmed:*** A clinically compatible case that is laboratory confirmed Note: *Acanthamoeba* species and *Balamuthia mandrillaris* can also cause disseminated disease (affecting multiple organ systems) or cutaneous disease. For *B. mandrillaris* disease, painless skin lesions appearing as plaques a few millimeters thick and one to several centimeters wide have been observed in some patients, especially patients outside the U.S., preceding the onset of neurologic symptoms by 1 month to approximately 2 years. Skin lesions and sinus disease may be seen in *Acanthamoeba* disease. Disseminated disease and cutaneous disease caused by free-living amebae are only voluntarily reportable in Texas unless they progress to meningitis or encephalitis. See also Amebic meningoencephalitis, primary (PAM)	Detection of *Acanthamoeba*, *Balamuthia*, or another non-*Naegleria* free-living ameba from a clinical specimen or culture via: ▪ Detection of nucleic acid (e.g., PCR), **OR** ▪ Detection of antigen (e.g., immunohistochemistry) Contact DSHS epidemiologist for meningitis (amebic) at 800-252-8239 if suspected. DSHS can assist in coordinating specimen and/or electronic images submission to the CDC for verification. Collection & shipping procedures can be found at: http://www.cdc.gov/parasites/acanthamoeba/ and http://www.cdc.gov/parasites/balamuthia/ Comments: *Acanthamoeba* spp. and *B. mandrillaris* can cause clinically similar illnesses and might be difficult to differentiate using commonly available laboratory procedures. Definitive diagnosis by a reference laboratory might be required. A negative test on CSF does not rule out *Acanthamoeba* or *Balamuthia* infection because these organisms are not commonly present in the CSF.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests

Amebic meningoencephalitis, primary (PAM)
80750
	An infection presenting as meningoencephalitis or encephalitis. The clinical presentation of PAM is like that of acute meningitis caused by other pathogens and symptoms include headache, nausea, vomiting, anorexia, fever, lethargy, and stiff neck. Disorientation, mental status changes, seizure activity, loss of consciousness, and ataxia may occur within hours of initial presentation. After the onset of symptoms, the disease progresses rapidly and usually results in death within 3 to 7 days.
	
	***Confirmed**:* A clinically compatible case that is laboratory confirmed
	
	***Probable**:* A clinically compatible case that meets at least one of the supportive laboratory criteria (listed below) and does not meet confirmatory lab criteria
	• Supportive laboratory evidence:
	  ○ Visualization of motile amebae in a wet mount of CSF
	  ○ Isolation of *N. fowleri* in culture from a clinical specimen
	
	See also Amebic meningitis/encephalitis, other
		Detection of *Naegleria fowleri* from a clinical specimen via:
		▪ Detection of nucleic acid (e.g., PCR),
		OR
		▪ Detection of antigen (e.g., immunohistochemistry)
		
		Note: When available, molecular characterization [e.g., genotype] should be reported.
		
		Contact DSHS epidemiologist for amebic meningitis at 800-252-8239 if suspected. DSHS can assist in coordinating specimen and/or electronic images submission to the CDC for verification. Collection & shipping procedures can be found at: http://www.cdc.gov/parasites/naegleria/diagnosis-hcp.html
		
		Comments: *Naegleria fowleri* might cause clinically similar illness to bacterial meningitis, particularly in its early stages. Definitive diagnosis by a reference laboratory is required. Unlike *Balamuthia mandrillaris* and *Acanthamoeba* spp., *N. fowleri* is commonly found in the CSF of patients with PAM.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Anaplasmosis 11090	A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. ***Confirmed:*** A clinically compatible illness that is laboratory confirmed ***Probable:*** A clinically compatible illness with serological evidence of IgG or IgM antibody reactive (≥1:128) with *Anaplasma phagocytophilum* antigen by IFA or identification of morulae in the cytoplasm of neutrophils or eosinophils by microscopic examination *Suspect:* A case with laboratory evidence of past/present infection with *A. phagocytophilum* (e.g., laboratory report) but no available clinical information	▪ Demonstration of a four-fold change in IgG-specific antibody titer to *A. phagocytophilum* antigen by IFA in paired serum samples (one taken in first week of illness and a second taken 2-4 weeks later), **OR** ▪ Detection of *A. phagocytophilum* DNA in a clinical specimen by PCR, **OR** ▪ Demonstration of anaplasmal antigen in a biopsy/autopsy sample by IHC, **OR** ▪ Isolation of *A. phagocytophilum* from a clinical specimen in cell culture

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Anthrax 10350	An illness with acute onset characterized by several distinct clinical forms, including the following: *Cutaneous:* A skin lesion evolving during a period of 2-6 days from a papule, through a vesicular stage, to a depressed black eschar. Fever, malaise, and lymphadenopathy can accompany the lesion. *Inhalation:* A prodrome resembling a viral respiratory illness, followed by hypoxia and dyspnea, or acute respiratory distress syndrome (ARDS) with resulting cyanosis and shock. Radiographic evidence of mediastinal widening or pleural effusion is common. *GastroIntestinal:* Severe abdominal pain and tenderness, nausea, vomiting, hematemesis, bloody diarrhea, anorexia, fever and septicemia. *Oropharyngeal:* Mucosal lesion in the oral cavity or oropharynx, with cervical adenopathy, edema, pharyngitis, fever, and possible septicemia. *Meningeal:* Fever, convulsions, coma or meningeal signs. This syndrome is usually secondary to the above syndromes. ***Confirmed:*** A clinically compatible case that is laboratory confirmed ***Probable:*** A clinically compatible illness that does not meet the confirmed case definition, but does meet one of the following criteria: ▪ Epidemiologic-link to a documented anthrax environmental exposure, **OR** ▪ Evidence of *B. anthracis* DNA, **OR** ▪ Positive result on serum specimen tests using the Quick ELISA Anthrax-PA kit, **OR** ▪ Detection of Lethal Factor (LF) in clinical serum specimens by LF mass spectrometry, **OR** ▪ Positive result on testing of culture from clinical specimens with the RedLine Alert test	▪ Culture and identification of *Bacillus anthracis* from clinical specimens by the Laboratory Response Network, **OR** ▪ Detection of *B. anthracis* antigens in tissues by IHC using both *B. anthracis* cell wall and capsule monoclonal antibodies, **OR** ▪ Evidence of a four-fold rise in antibodies or antigen between acute and convalescent sera using CDC IgG ELISA testing, **OR** ▪ Documented anthrax environmental exposure AND evidence of *B. anthracis* DNA Note: As required by *TAC* , all *B. anthracis* isolates must be submitted to the DSHS laboratory.

Arbovirus, neuroinvasive (encephalitis/meningitis) and non-neuroinvasive **Neuroinvasive Disease** 10058 **Encephalitis, Cache Valley** 10054 **Encephalitis/ Meningitis, California*** 10053 **Encephalitis, Eastern equine (EEE)** 10078 **Encephalitis, Jamestown Canyon** 10059 **Encephalitis, Japanese** 10081 **Encephalitis, La Crosse** 10057 **Encephalitis, Powassan** 10051 **Encephalitis, St. Louis (SLE)** 10055 **Encephalitis, Venezuelan equine (VEE)** 10056 **Encephalitis, West Nile (WNND)** 10052 **Encephalitis, Western equine (WEE)** **Non-neuroinvasive Disease** 10072 **Arbovirus, other** 10066 **Cache Valley Virus** 10061 **California serogroup virus*** 10073 **Chikungunya virus** 10062 **Eastern equine encephalitis virus** 10079 **Jamestown Canyon** 10068 **Japanese Encephalitis virus** 10082 **La Crosse virus** 10063 **Powassan virus** 10064 **St. Louis encephalitis virus** 10067 **Venezuelan equine encephalitis Virus** 10049 **West Nile Fever** 10065 **Western equine encephalitis virus**	For the purposes of surveillance and reporting, based on their clinical presentation, arboviral disease cases are often categorized into two primary groups: neuroinvasive disease and non-neuroinvasive disease. Many arboviruses cause neuroinvasive disease such as aseptic meningitis, encephalitis, or acute flaccid paralysis (AFP). These illnesses are usually characterized by the acute onset of fever with stiff neck, altered mental status, seizures, limb weakness, CSF pleocytosis, or abnormal neuroimaging. AFP may result from anterior myelitis, peripheral neuritis or post-infectious peripheral demyelinating neuropathy. Less common neurological manifestations, such as cranial nerve palsies, also occur. Most arboviruses are capable of causing an acute systemic febrile illness (e.g., West Nile fever) that may include headache, myalgias, arthralgias, rash, or gastrointestinal symptoms. Some viruses also can cause more characteristic clinical manifestations, such as severe polyarthralgia or arthritis due to chikungunya virus or other alphaviruses. **Clinical evidence of neuroinvasive disease:** ▪ Meningitis, encephalitis, acute flaccid paralysis, or other acute signs of central or peripheral neurologic dysfunction, as documented by a physician, **AND** ▪ Absence of a more likely clinical explanation **Clinical evidence of non-neuroinvasive disease**: ▪ Fever or chills as reported by the patient or a health-care provider, **AND** ▪ Absence of neuroinvasive disease, **AND** ▪ Absence of a more likely clinical explanation. ***Neuroinvasive:*** ***Confirmed*:** A clinically compatible case (meets neuroinvasive clinical evidence criteria) with laboratory confirmation ***Probable:*** A clinically compatible case (meets neuroinvasive clinical evidence criteria) with virus-specific IgM antibodies in CSF or serum but no other testing **OR with lower levels of neutralizing antibodies for another flavivirus** ***Non-neuroinvasive:*** ***Confirmed*:** A clinically compatible case (meets non-neuroinvasive clinical evidence criteria) with laboratory confirmation ***Probable: :*** A clinically compatible case (meets non-neuroinvasive clinical evidence criteria) with virus-specific IgM antibodies in serum but no other testing **OR with lower levels of neutralizing antibodies for another flavivirus**	**Neuroinvasive** ▪ Isolation of virus from, or demonstration of specific viral antigen or nucleic acid in, tissue, blood, CSF, or other body fluid, **OR** ▪ Four-fold or greater change in virus-specific quantitative antibody titers in paired sera, **OR** ▪ Virus-specific IgM antibodies in serum with confirmatory virus-specific neutralizing antibodies in the same or a later specimen, and a negative result for other neutralizing antibodies for arboviruses endemic to the region where exposure occurred, **OR** ▪ Virus-specific IgM antibodies in CSF and a negative result for other IgM antibodies in CSF for arboviruses endemic to the region where exposure occurred **Non-neuroinvasive** ▪ Isolation of virus from, or demonstration of specific viral antigen or nucleic acid in, tissue, blood, or other body fluid, ***excluding CSF***, **OR** ▪ Four-fold or greater change in virus-specific quantitative antibody titers in paired sera, **OR** ▪ Virus-specific IgM antibodies in serum with confirmatory virus-specific neutralizing antibodies in the same or a later specimen and a negative result for other neutralizing antibodies for arboviruses endemic to the region where exposure occurred *Note: California encephalitis/meningitis refers to all California serogroup viruses. California serogroup includes California encephalitis, Keystone, snowshoe hare, and trivittatus viruses. All cases of Jamestown Canyon and La Crosse should be reported separately.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Ascariasis 80770	Ascariasis is a soil-transmitted helminth. Infection is generally associated with few or no overt clinical symptoms. Live worms, passed in stools or occasionally from the mouth, anus, or nose, are often the first recognized sign of infection. Larval migration may result in pulmonary manifestations such as wheezing, cough, fever, eosinophilia and pulmonary infiltration in some patients. Mild infections may result in minor abdominal discomfort, dyspepsia, and loss of appetite. Major infections may result in severe abdominal pain, fatigue, vomiting, or weight loss. In children, these symptoms can result in nutrient deficiencies resulting in growth retardation and/or cognitive impairment. Serious complications are rare but can be fatal and include intestinal obstruction by a bolus of worms, or obstruction of bile duct, pancreatic duct or appendix by one or more adult worms. ***Confirmed:*** A case that is laboratory confirmed ***Probable***: A clinically compatible case with evidence of infection such as ▪ An ultrasound showing worms in the pancreas or liver ▪ CT scans or MRI showing worms present in the ducts of the liver or pancreas.	▪ Microscopic identification of *Ascaris* eggs in feces, **OR** ▪ Microscopic identification of ascrid larvae in sputum or gastric washings, **OR** ▪ Identification of adult worms passed from the anus, mouth or nose

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests

Babesiosis
12010
	Babesiosis is a parasitic disease caused by organisms in the *Babesia* genus. Infection can range from subclinical to life-threatening. Clinical manifestations can include hemolytic anemia and nonspecific influenza-like signs and symptoms (e.g., fever, chills, sweats, headache, myalgia, arthralgia, malaise, fatigue, and generalized weakness), splenomegaly, hepatomegaly, or jaundice. Laboratory findings can include thrombocytopenia, proteinuria, hemoglobinuria, and elevated levels of liver enzymes, blood urea nitrogen, and creatinine. Severe cases can be associated with marked thrombocytopenia, disseminated intravascular coagulation, hemodynamic instability, acute respiratory distress, myocardial infarction, renal failure, hepatic compromise, altered mental status, and death.
	Objective Clinical Criteria: 1) fever; 2) anemia; 3) thrombocytopenia
	Subjective Clinical Criteria: 1) sweats, 2) headache, 3) myalgia, 4) arthralgia, 5) chills
	
	Confirmed: A clinically compatible case that is laboratory confirmed **AND** meets at least one objective clinical criterion **OR** one subjective clinical criterion
	
	Probable: A case that:
	▪ Has at least one supportive laboratory result (criteria listed below) **AND** meets at least one objective clinical criterion (subjective clinical criteria alone are not sufficient)
	  ▪ IFA total immunoglobulin (Ig) or IgG titer:
	  ▪ *B. microti*: ≥ 1:256 (≥1:64 in epidemiologically linked blood donors or recipients)
	  ▪ *B. divergens*: ≥ 1:256
	  ▪ *B. duncani*: ≥ 1:512
	  ▪ Immunoblot IgG: *B. microti* positive result, **OR**
	▪ Is a blood donor or recipient epidemiologically linked to a confirmed or probable babesiosis case, **AND**
	▪ Has confirmatory laboratory evidence but does not satisfy objective or subjective clinical criterion, **OR**
	▪ Satisfies the supportive laboratory criteria (same as above)
	
	*Suspect***:** A case that has confirmatory or supportive laboratory results, but insufficient clinical or epidemiological information is available for case classification
		At least one of the following must be met:
		▪ Identification of intraerythrocytic *Babesia* organisms by light microscopy in a Giemsa, Wright, or Wright-Giemsa–stained blood smear,
		OR
		▪ Detection of *Babesia* spp. DNA in a whole blood specimen by polymerase chain reaction (PCR),
		OR
		▪ Detection of *Babesia* spp. genomic sequences in a whole blood specimen by nucleic acid amplification,
		OR
		▪ Isolation of *Babesia* organisms from a whole blood specimen by animal inoculation

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Botulism, foodborne 10530	Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis can progress rapidly. ***Confirmed***: A clinically compatible case that is laboratory confirmed or that occurs among persons who ate the same food as persons who have laboratory confirmed botulism ***Probable***: A clinically compatible case with a history of ingestion of a food item known to carry a risk for the botulism toxin	▪ Detection of botulinum toxin in serum, stool, or patient's food, **OR** ▪ Isolation of *Clostridium botulinum* from stool Note: As required by *TAC* all *Clostridium botulinum* isolates must be submitted to the DSHS laboratory.
Botulism, infant 10540	An illness of infants, characterized by constipation, poor feeding, and "failure to thrive" that can be followed by progressive weakness, impaired respiration, and death. ***Confirmed***: A clinically compatible case that is laboratory confirmed, occurring in a child aged less than 1 year	▪ Detection of botulinum toxin in stool or serum, **OR** ▪ Isolation of *Clostridium botulinum* from stool Note: As required by *TAC* all *Clostridium botulinum* isolates must be submitted to the DSHS laboratory.
Botulism, other unspecified 10548	Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis can progress rapidly. ***Confirmed***: A clinically compatible case that is laboratory confirmed in a patient aged greater than or equal to 1 year who has no history of ingestion of suspect food and has no wounds	▪ Detection of botulinum toxin in clinical specimen, **OR** ▪ Isolation of *Clostridium botulinum* from clinical specimen Note: As required by *TAC* all *Clostridium botulinum* isolates must be submitted to the DSHS laboratory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Botulism, wound 10549	An illness resulting from toxin produced by *Clostridium botulinum* that has infected a wound. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis can progress rapidly. ***Confirmed***: A clinically compatible case that is laboratory confirmed in a patient who has no suspected exposure to contaminated food and who has a history of a fresh, contaminated wound during the 2 weeks before onset of symptoms , or a history of injection drug use within the 2 weeks before onset of symptoms ***Probable:*** A clinically compatible case in a patient who has no suspected exposure to contaminated food and who has either a history of a fresh, contaminated wound during the 2 weeks before onset of symptoms, or a history of injection drug use within the 2 weeks before onset of symptoms	▪ Detection of botulinum toxin in serum, **OR** ▪ Isolation of *Clostridium botulinum* from wound Note: As required by *TAC* all *Clostridium botulinum* isolates must be submitted to the DSHS laboratory.
Brucellosis 10020	An illness that can cause a range of clinical signs and symptoms. Initial signs and symptoms may include fever, sweats, malaise, anorexia, headache, myalgia, arthralgia and/or fatigue. Chronic signs and symptoms may include recurrent fevers, arthritis, epididymitis, orchitis, endocarditis, hepatomegaly, splenomegaly, neurologic symptoms, chronic fatigue, and/or depression. ***Confirmed*:** A clinically compatible illness that is laboratory confirmed ***Probable:*** A clinically compatible case with at least one of the following: ▪ Epidemiologically linked to a confirmed human or animal brucellosis case, **OR** ▪ *Brucella* total antibody titer ≥ 160 by standard tube agglutination test (SAT) or by *Brucella* microagglutination test (BMAT) in one or more serum specimens obtained after onset of symptoms, **OR** ▪ Detection of *Brucella* DNA in a clinical specimen by PCR assay	▪ Culture and identification of *Brucella* spp. from clinical specimens, **OR** ▪ Four-fold or greater rise in *Brucella* agglutination titer between acute- and convalescent-phase serum specimens obtained greater than or equal to 2 weeks apart and studied at the same laboratory Note: As required by *TAC*, all *Brucella* spp. isolates must be submitted to the DSHS laboratory.
California encephalitis virus - (see **Arbovirus**)	See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus, Neuroinvasive and Non-neuroinvasive

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Campylobacteriosis 11020	An illness of variable severity commonly manifested by diarrhea, abdominal pain, nausea and sometimes vomiting. The organism may also rarely cause extra-intestinal infections such as bacteremia, meningitis or other focal infections. ***Confirmed*:** A case that is laboratory confirmed ***Probable:*** ▪ A case with *Campylobacter* spp. detected. in a clinical specimen using a culture independent diagnostic test (CIDT) **OR** ▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis Note: The use of CIDTs as stand-alone tests for the direct detection of *Campylobacter* in stool is increasing. Data regarding their performance indicate variability in the sensitivity, specificity, and positive predictive value of these assays depending on the manufacturer (CDC unpublished data). It is therefore useful to collect information on the laboratory conducting the testing using the laboratory's unique CLIA number, and when possible, type and manufacturer of the CIDT used to diagnose each case. Culture confirmation of CIDT-positive specimens is ideal, but not practical to achieve in most jurisdictions. Note: A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species	▪ Isolation of *Campylobacter* spp. in a clinical specimen

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Carbapenem-resistant *Enterobacteriaceae* (CRE) 77924	Carbapenem-resistant *Enterobacteriaceae* (CRE): Carbapenemase producing *Enterobacteriaceae* or carbapenem-resistant *Enterobacteriaceae*, specifically *Klebsiella* species and *Escherichia coli*, are gram-negative bacilli that have the ability to break down the carbapenem antibiotic rendering it ineffective. Carbapenem resistance by *Enterobacteriaceae* can occur by many different mechanisms, which can be transmitted from one *Enterobacteriaceae* to another. CRE can also have additional resistance mechanisms that enable them to be non-susceptible to many other classes of commonly used antibiotics. CRE can cause infections in almost any part of the body including bloodstream infections, ventilator- associated pneumonia, and intra-abdominal abscesses. ***Confirmed***: A *Klebsiella* species or *E.coli* from any body site/ source that is laboratory confirmed. Additional information on CRE can be found at: http://www.cdc.gov/HAI/organisms/cre/index.html	***CRE confirmed*** ▪ *Klebsiella* species and *E. coli* that are **resistant** to any carbapenem, including meropenem, imipenem, doripenem, or ertapenem, **OR** ▪ Production of a carbapenemase (i.e. KPC, NDM, VIM, IMP, OXA-48) demonstrated by a recognized test (i.e. polymerase chain reaction, metallo-β-lactamase test, modified Hodge test, Carba NP). Note: There is no requirement to submit isolates to the DSHS lab. Please contact a DSHS HAI Epidemiologist or the DSHS lab for additional information on available lab support.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Chagas disease, acute 12041	Chagas disease is a parasitic infection caused by *Trypanosoma cruzi*. The acute phase is characterized by the first 8 weeks of infection, detectable parasitemia, and asymptomatic (most common) or symptomatic manifestations of disease which can include any of the following: ▪ Fever, malaise, rash, body aches, headache, loss of appetite, vomiting, diarrhea, hepatomegaly, splenomegaly, lymphadenopathy, Chagoma (nodular swelling at site of inoculation), Romaña's sign (unilateral swelling of the eyelid), acute myocarditis, and/or meningoencephalitis. ***Confirmed***: A case (asymptomatic or symptomatic) that has confirmatory laboratory testing ***Probable:*** A clinically compatible case with supportive laboratory testing* and documented exposure** within 8 weeks of illness onset or diagnosis *Supportive laboratory testing includes**:** ▪ Positive diagnostic serology for *T. cruzi* antibodies **OR** ▪ Positive blood donor screening test **PLUS** a positive supplemental test **Documented exposure may include history of travel to an endemic country	▪ Identification of *T. cruzi* by microscopy including: ▪ Microscopic examination of *T. cruzi* by: ▪ Wet mount – motile trypanosomes OR ▪ Thick & thin smears - Giemsa stain **OR** ▪ Isolation of the agent by ▪ Culture (specialized media - NNN, LIT) OR ▪ Inoculation into mice, OR ▪ Xenodiagnosis **OR** ▪ Detection of *T. cruzi* DNA by PCR Note: There is no gold standard for screening or diagnosis. No single supportive test has the sensitivity and specificity to be relied on alone. Congenital infections are considered acute up to 8 weeks of age and can be diagnosed by confirmatory tests. Infants < 9 months and epidemiologically-linked need to be retested after 9 months of age.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Chagas disease, chronic indeterminate 12043	Following the acute phase, most infected people enter into a prolonged, asymptomatic form of disease (called "chronic indeterminate") during which few or no parasites are found in the blood. During this time, most people are unaware of their infection. Many people remain asymptomatic for life and never develop chronic Chagas-related symptoms. ***Confirmed**:* An asymptomatic case >9 months of age with confirmatory lab results ***Probable**:* An asymptomatic case >9 months of age with supportive laboratory testing* *Supportive laboratory testing includes**:** ▪ Positive diagnostic serology for *T. cruzi* antibodies **OR** ▪ Positive blood donor screening test PLUS a positive supplemental test Patients that test positive by these *tests should have confirmatory testing at CDC Note: Women with chronic indeterminate disease can transmit infection to their unborn babies. Infants <9 months of age with a mother from an endemic area, in absence of direct detection of the organism, cannot be classified or ruled out due to maternal antibodies; perform serology at 9 months of age and classify based on presence or absence of symptoms as chronic symptomatic or chronic indeterminate case definition.	▪ Detection of antibody specific to *T. cruzi* by TWO distinct diagnostic tests** **Tests must be performed at CDC Note: No single supportive test has the sensitivity and specificity to be relied on alone, thus two different methods or antibodies specific to *T. cruzi* are used.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Chagas disease, chronic symptomatic 12042	Much like the chronic indeterminate phase, the chronic symptomatic phase of disease (more than 8 weeks post infection) is characterized by undetectable parasitemia. However, an estimated 20 - 30% of infected people will develop debilitating and sometimes life-threatening medical problems over the course of their lives. Complications of chronic Chagas disease may include heart rhythm abnormalities that can cause sudden death, a dilated heart that doesn't pump blood well, and/or a dilated esophagus or colon, leading to difficulties with eating or passing stool. ***Confirmed**:* A physician- diagnosed case of chronic Chagas disease in a patient > 9 months of age with confirmatory laboratory results ***Probable**:* A physician diagnosed case of chronic Chagas disease > 9 months of age with supportive laboratory results* * Supportive laboratory testing includes**:** ▪ Positive diagnostic serology for *T. cruzi* antibodies **OR** ▪ Positive blood donor screening test PLUS a positive supplemental test Patients that test positive by these *tests should have confirmatory testing at CDC	▪ Detection of antibody specific to *T. cruzi* by TWO distinct diagnostic tests** **Tests must be performed at CDC Note: No single supportive test has the sensitivity and specificity to be relied on alone, thus two different methods or antibodies specific to *T. cruzi* are used.
Chickenpox - (see Varicella)	See Varicella	
Cholera (toxigenic *Vibrio cholerae* O1 or O139) 10470	An illness characterized by diarrhea and/or vomiting; severity is variable. ***Confirmed:*** A clinically compatible illness that is laboratory confirmed Note: Illnesses caused by strains of ***V. cholerae*** other than toxigenic ***V. cholerae*** O1 or O139 should not be reported as cases of cholera. (See *Vibrio parahaemolyticus*, *Vibrio vulnificus*, and Vibriosis, other or unspecified*)*	▪ Isolation of toxigenic (i.e., cholera toxin-producing) *Vibrio cholerae* O1 or O139 from stool or vomitus, **OR** ▪ Serologic evidence of recent infection Note: As required by *TAC* all *Vibrio* species isolates must be submitted to the DSHS laboratory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Contaminated sharps injury	A contaminated sharps injury that occurs in a heath care setting that is contaminated with human blood or body fluids should be reported per the below guidelines. Contaminated sharps injuries in private facilities are reported to OSHA. Contaminated sharps injuries in Texas public facilities (government entities) are reported to DSHS Emerging and Acute Infectious Disease Branch. *The facility where the injury occurred should complete the reporting form and submit it to the local health authority where the facility is located. If no local health authority is appointed for this jurisdiction, submit to the regional director of the Texas Department of State Health Services (TDSHS) regional office in which the facility is located. Address information for regional directors can be obtained at* http://www.dshs.state.tx.us/regions/default.shtm. *The local health authority, acting as an agent for the TDSHS will receive and review the report for completeness, and submit the report to:* Texas Department of State Health Services Emerging and Acute Infectious Disease Branch PO Box 149347 (Mailcode 1960), Austin, Texas 78714-9347 Fax number: 512-776-7616 The reporting forms can be found at http://www.dshs.state.tx.us/idcu/health/infection_control/bloodborne_pathogens/reporting/ For health care worker HIV risk assessment and follow-up refer to the Updated U.S. Public Health Service guidelines for the management of occupational exposures to HIV and recommendations for postexposure prophylaxis http://stacks.cdc.gov/view/cdc/20711 (updated 2013). For health care worker HBV and HCV risk assessment and follow-up refer to the Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis (updated 2001).	Both source person and injured employee should be tested for HIV, HBV, and HCV due to the exposure and not as a laboratory confirmation. See referenced U.S. Public Health Service Guidelines for recommended follow-up testing.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests

Cryptosporidiosis
11580
	A gastrointestinal illness characterized by diarrhea and one or more of the following: diarrhea duration of 72 hours or more, abdominal cramping, vomiting, or anorexia.
	
	***Confirmed*:** A case that is laboratory confirmed
	
	Probable:
	▪ A case with *Cryptosporidium* antigen detected by a screening test method such as, the immunochromatographic card/rapid card test or a laboratory test of unknown method
	OR
	▪ A clinically compatible case that is epidemiologically linked to a confirmed case by one of the following means:
	  ▪ Household or other close contact to a lab-confirmed case with onset of symptoms within 1 month (before or after), **OR**
	  ▪ Exposure to an outbreak at a body of water or water facility involving at least 2 lab-confirmed cases and onset of symptoms within one month (before or after) of one or more of these cases
	
	Note: a case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection
		▪ Detection of *Cryptosporidium* organisms or DNA in stool, intestinal fluid, tissue samples, biopsy specimens, or other biological sample by certain laboratory methods with a high positive predictive value (PPV), e.g., DFA, PCR, EIA, or light microscopy of stained specimen

Cyclosporiasis 11575	An illness of variable severity caused by the protozoan parasite *Cyclospora cayetanensis*. The most common symptom is watery diarrhea. Other common symptoms include loss of appetite, weight loss, abdominal cramps/bloating, nausea, body aches, and fatigue. Vomiting and low grade fever also may be noted. Relapses and asymptomatic infections can occur. ***Confirmed:*** A laboratory-confirmed case with or without clinical symptoms ***Probable*:** A clinically compatible case that is epidemiologically linked to a confirmed case Note: a case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection	▪ Detection—in symptomatic or asymptomatic persons— of *Cyclospora*: ▪ Oocysts in stool by microscopic examination, or in intestinal fluid/aspirate or intestinal biopsy specimens, **OR** ▪ Demonstration of sporulation, or DNA (by PCR) in stool, intestinal fluid/aspirate or intestinal biopsy specimens

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Cysticercosis (also see ***Taenia solium***) 12031	Cysticercosis is a tissue infection caused by the larval form of the pork tapeworm, *Taenia solium*. Infection occurs when the tapeworm eggs are ingested, hatch into larvae, and migrate to tissues where they form cysticerci (cysts). The signs and symptoms of cysticercosis reflect the development of cysticerci in various sites. Subcutaneous cysticerci may be visible or palpable. When cysticerci are found in the brain, the condition is called neurocysticercosis, which can cause diverse manifestations including seizures, mental disturbances, focal neurologic deficits, and signs of space-occupying intracerebral lesions. Death can occur suddenly. Extracerebral cysticercosis can cause ocular, cardiac, or spinal lesions with associated signs and symptoms. Asymptomatic subcutaneous nodules and calcified intramuscular nodules can be encountered. ***Confirmed:*** Laboratory confirmation of the presence of cysticercus in tissue Note: Also see *Taenia solium*	▪ Diagnosis of neurocysticercosis is usually made by MRI or CT brain scans in order to identify the presence of cysticerci. If surgery is necessary, confirmation of the diagnosis can be made by demonstrating the cysticercus in the tissue involved (biopsy). ▪ Radiographs can identify calcified cysticerci in tissues other than the brain. Note**:** Blood tests are available to help diagnose an infection, but are not always accurate. Demonstration of *T. solium* eggs and proglottids in the feces are diagnostic of taeniasis and not cysticercosis. While suggestive, it does not necessarily prove that cysticercosis is present. Persons who are found to have eggs or proglottids in their feces should be evaluated serologically since autoinfection, resulting in cysticercosis, can occur.

Dengue–like Illness
11704
 	
Dengue
10680
 	
Dengue, severe
11705
	Dengue is a potentially fatal febrile illness caused by infection with any of the four dengue viruses (DENV-1, -2, -3 and -4). Dengue is transmitted primarily through the bite of *Aedes aegypti* and *Ae. albopictus* mosquitoes. For the purposes of surveillance and reporting, based on their clinical presentation, dengue cases can be categorized into three primary groups: dengue-like illness, dengue, and severe dengue.
	
	Clinical evidence of dengue-like illness:
	▪ Fever as reported by the patient or healthcare provider
	
	Clinical evidence of dengue:
	▪ Fever as reported by the patient or healthcare provider and the presence of one or more of the following signs and symptoms:
	  ▪ nausea/vomiting
	  ▪ rash
	  ▪ aches and pains (i.e. headache, retro-orbital pain, arthralgia)
	  ▪ tourniquet test positive
	  ▪ leukopenia (a total white blood cell <5,000/mm³)
	  ▪ abdominal pain
	  ▪ persistent vomiting
		▪ Detection of DENV nucleic acid in serum, plasma, CSF, other body fluid or tissue by validated RT-PCR**,**
		
		OR
		
		▪ Detection of DENV antigen in tissue, by IHC,
		OR
		
		▪ Detection in serum or plasma of DENV NS1 antigen by a validated immunoassay,
		
		OR
		
		▪ Cell culture isolation of DENV from serum, plasma, or CSF specimen,
		
		OR
		
		▪ Detection of IgM anti-DENV in serum or CSF in a traveler returning from a dengue endemic area without on-going transmission of another flavivirus, clinical evidence of co-infection

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
	▪ extravascular fluid accumulation ▪ mucosal bleeding ▪ liver enlargement >2 centimeters ▪ increasing hematocrit concurrent with rapid decrease in platelet count **Clinical evidence of severe dengue:** ▪ Dengue with any one or more of the following scenarios: ▪ severe plasma leakage evidenced by hypovolemic shock and/or extravascular fluid accumulation with respiratory distress ▪ severe bleeding from the gastrointestinal tract or vagina as defined by requirement for medical intervention including intravenous fluid resuscitation or blood transfusion ▪ severe organ involvement, including any of the following: ▪ elevated liver transaminases: aspartate aminotransferase (AST) or alanine aminotransferase (ALT) ≥1,000 units per liter (U/L) ▪ impaired level of consciousness and/or diagnosis of encephalitis, encephalopathy, or meningitis ▪ heart of other organ involvement including myocarditis, cholecystitis, and pancreatitis	with a flavivirus or recent vaccination against a flavivirus**,** **OR** ▪ Detection of IgM anti-DENV in serum or CSF in a person living in a dengue endemic or non-endemic area of the US without evidence of other flavivirus transmission, **OR** ▪ IgM anti-DENV seroconversion by validated immunoassay in acute (i.e., collected <5 days of illness onset) and convalescent (i.e., collected >5 days after illness onset) serum specimens, **OR** ▪ IgG anti-DENV seroconversion or ≥4-fold rise in titer in serum specimens collected >2 weeks apart, and confirmed by a neutralization test (e.g., plaque reduction neutralization test) with a >4-fold higher end point titer as compared to other flaviviruses tested

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
	Confirmed: A clinically compatible case of dengue-like illness, dengue, or severe dengue with confirmatory laboratory results ***Probable*:** A clinically compatible case of dengue-like illness, dengue, or severe dengue AND one of the following: ▪ Detection of IgM anti-DENV by validated immunoassay in serum or CSF in a person living in a dengue endemic or non-endemic area of the US with evidence of other flavivirus transmission or recent vaccination against a flavivirus ▪ Detection of IgM anti-DENV by validated immunoassay in serum or CSF in a traveler returning from a dengue endemic area with ongoing transmission of another flavivirus, clinical evidence of co-infection with one of these flaviviruses, or recent vaccination against a flavivirus *Suspect:* A clinically compatible case of dengue-like illness, dengue, or severe dengue with an epidemiologic linkage, as defined below: Epidemiologic linkage criteria: ▪ Travel to a dengue endemic country or presence at a location with an ongoing outbreak within the previous two weeks of onset of an acute febrile illness or dengue, **OR** ▪ Association in time and place with a confirmed or probable dengue case	
Diphtheria 10040	An upper respiratory tract illness characterized by sore throat, low-grade fever, and an adherent membrane of the tonsil(s), pharynx, larynx and/or nose ***Confirmed:*** A clinically compatible case that is either laboratory confirmed, **OR** epidemiologically linked to a laboratory-confirmed case Note: Cutaneous diphtheria should not be reported. All diphtheria isolates, regardless of association with disease, should be sent to the DSHS laboratory.	▪ Isolation of *Corynebacterium diphtheriae* from a clinical specimen, **OR** ▪ Histopathologic diagnosis of diphtheria
Eastern equine encephalitis virus (EEE) - (see **Arbovirus**)	See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus, Neuroinvasive and Non-neuroinvasive.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Ebola (HF) 11630	An illness characterized by abrupt onset of fever usually accompanied by one or more of the following symptoms: severe headache, nausea, vomiting, abdominal pain, diarrhea, fatigue, weakness, myalgia, unexplained bleeding or bruising, or development of a maculopapular rash. ***Confirmed***: A clinically compatible illness that is laboratory confirmed *Suspect:* A clinically compatible illness that meets one or more of the following exposures within 21-days before onset of symptoms: ▪ Contact with blood or other body fluids of a patient with EVD, **OR** ▪ Residence in—or travel to—an EVD endemic area or area currently classified by CDC as experiencing an Ebola outbreak, **OR** ▪ Handling EVD specimens in a laboratory setting, **OR** ▪ Work in a laboratory that handles primates, bats, or rodents from endemic areas, **OR** ▪ Exposure to semen or breast-milk of an individual who had EVD within the last 9 months.	▪ RT-PCR for Ebola, **OR** ▪ Ebola Virus isolation in culture, **OR** ▪ IgM ELISA, **OR** ▪ Antigen-capture ELISA, **OR** ▪ Detection of Ebola virus antigen by Immunohistochemistry
Echinococcosis 80670	Echinococcosis is an infection caused by the larval stage of tapeworms in the genus *Echinococcus*, including *E. granulosus* and *E. multilocularis*. Transmission occurs through the ingestion of tapeworm eggs in contaminated food, water, soil, dog feces, or on the contaminated coats of dogs and cats. Infection may also occur through the ingestion of cysts in the undercooked internal organs of infected intermediate hosts, such as sheep, goats and swine. Many infections are asymptomatic for years before the growing cysts cause clinical signs and symptoms associated with the affected organs. Liver involvement is associated with abdominal pain, hepatic masses, and biliary duct obstruction. Pulmonary involvement can produce chest pain, cough, and hemoptysis. Other organs, including the brain, bone, and heart, may also be involved with resulting clinical signs and symptoms. Ruptured cysts may cause fever, urticaria (hives), eosinophilia and anaphylactic shock. ***Confirmed:*** An asymptomatic or symptomatic case that meets one or more confirmatory laboratory criteria. ***Probable****:* An asymptomatic or symptomatic case with *Echinococcus*-specific antibodies identified by TWO different types of serological assays.	▪ Detection of cysts or organ lesions using imaging techniques, including computerized tomography (CT), magnetic resonance imaging (MRI), and ultrasonography **AND** detection of *Echinococcus*-specific antibodies, **OR** ▪ Detection of *Echinococcus* spp. DNA by PCR in a clinical specimen, **OR** ▪ Histopathology or parasitology results compatible with *Echinococcus spp.* (i.e. direct visualization of the protoscolex in cyst fluid)

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
***Ehrlichia chaffeensis* disease** 11088	A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. Intracytoplasmic bacterial aggregates (morulae) can be visible in the leukocytes of some patients. ***Confirmed:*** A clinically compatible illness that is laboratory confirmed ***Probable*:** A clinically compatible illness with serological evidence of IgG or IgM antibody reactive (≥:1:128) with *E. chaffeensis* antigen by IFA *Suspect:* A case with laboratory evidence of past/present infection with *E. chaffeensis* (e.g., laboratory report) but no available clinical information	▪ Demonstration of a four-fold change in IgG-specific antibody titer to *E. chaffeensis* antigen by IFA in paired serum samples (one taken in first week of illness and a second taken 2-4 weeks later), **OR** ▪ Detection of *E. chaffeensis* DNA in a clinical specimen by PCR, **OR** ▪ Demonstration of ehrlichial antigen in a biopsy/autopsy sample by IHC, **OR** ▪ Isolation of *E. chaffeensis* from a clinical specimen in cell culture
***Ehrlichia ewingii* disease** 11089	A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. Intracytoplasmic bacterial aggregates (morulae) can be visible in the leukocytes of some patients. ***Confirmed:*** A clinically compatible illness that is laboratory confirmed *Suspect:* A case with laboratory evidence of past/present infection with *E. ewingii* (e.g., laboratory report) but no available clinical information	▪ Detection of *E. ewingii* DNA in a clinical specimen by PCR Note: Because the organism has never been cultured, antigens are not available. Thus, *E. ewingii* infections can only be diagnosed by molecular detection methods.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Ehrlichiosis/Anaplasmosis – undetermined 11091	A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. Intracytoplasmic bacterial aggregates (morulae) can be visible in the leukocytes of some patients. ***Probable*:** A clinically compatible illness with serological evidence of IgG or IgM antibody reactive (≥1:128) with *Ehrlichia/Anaplasma* spp. by IFA **OR** identification of morulae in white cells by microscopic examination in the absence of other supportive lab results *Suspect*: A case with laboratory evidence of past/present infection with undetermined *Ehrlichia/Anaplasma* spp. but no available clinical information Note: For ehrlichiosis/anaplasmosis, an undetermined case can only be classified as probable. This occurs when a case has compatible clinical criteria with laboratory evidence to support infection, but not with sufficient clarity to identify the organism as *E. chaffeensis*, *A. phagocytophilum*, or *E. ewingii*. This can include the identification of morulae in white cells by microscopic examination in the absence of other supportive laboratory results.	Not applicable - See note
Encephalitis, arboviral	See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis)	See Lab Confirmation Tests for Arbovirus, Neuroinvasive (Encephalitis/meningitis)
***Escherichia coli*, Shiga toxin-producing (STEC)**	*See* Shiga toxin-producing *Escherichia coli* (STEC)	

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Fascioliasis 80663	Fascioliasis (liver fluke trematode) is transmitted by eating raw watercress or other water plants contaminated with immature larvae, usually from locations around sheep, cattle, or related animals. The immature larval flukes migrate through the intestinal wall, the abdominal cavity, and the liver tissue, into the bile ducts, where they develop into mature adult flukes. In the early (acute) phase, symptoms may include fever; gastrointestinal problems such as nausea, vomiting and diarrhea; a swollen liver (hepatomegaly); liver function abnormalities, skin rashes; shortness of breath; and abdominal pain or tenderness. The chronic phase (after the parasite settles in the bile ducts), is marked by inflammation and hyperplasia and thickening of the bile ducts and gall bladder, leading to biliary lithiasis or obstruction. The symptoms of this phase such as biliary colic, nausea, intolerance to fatty food, right upper quadrant pain, epigastric pain, obstructive jaundice, and pruritus, are the result of a blockade in the biliary tract and inflammation in the gall bladder. Inflammation of the liver, gallbladder, and pancreas can also occur. ***Confirmed***: A case that is laboratory confirmed ***Probable***: A clinically compatible case with ▪ Detection of *Fasciola* antibodies, or ▪ History of ingestion of watercress or freshwater plants and eosinophilia	▪ Microscopic identification of *Fasciola* eggs in feces, duodenal contents, or bile, **OR** ▪ Detection of *Fasciola* coproantigens (antigens found in feces) by ELISA
Group A *Streptococcus*, invasive (GAS)	*See* *Streptococcus*, invasive group A (GAS)	
Group B *Streptococcus*, invasive (GBS)	*See* *Streptococcus*, Invasive group B (GBS)	
Granulomatous amebic encephalitis (GAE)	See Amebic meningitis/encephalitis, other	

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
***Haemophilus influenzae*, invasive disease** 10590	Invasive *Haemophilus influenzae* may manifest as pneumonia, bacteremia/septicemia, meningitis, epiglottitis, pericarditis, osteomyelitis, septic arthritis, endocarditis and cellulitis. ***Confirmed**:* A case that is laboratory confirmed ***Probable*:** Meningitis with detection of *H. influenzae* type b antigen in cerebrospinal fluid (CSF). (Antigen test results in urine or serum are unreliable for diagnosis of *H. influenzae* disease.)	▪ Isolation of *H. influenzae* from a normally sterile site (e.g., blood, cerebrospinal fluid [CSF], or less commonly, joint, pleural, or pericardial fluid), **OR** ▪ Detection of *Haemophilus influenzae* specific nucleic acid from a normally sterile site using a validated PCR assay See Normally Sterile Site Note: Serotyping of isolates can be performed at the DSHS laboratory. Serotyping is recommended for all *H. influenzae* cases and required on isolates from children under 5 years old.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Hantavirus infection, non-HPS 11610 **Hantavirus pulmonary syndrome** 11590	Hantaviruses are rodent-borne viruses that can be transmitted to humans. Patients with hantavirus infection typically present with nonspecific signs and symptoms including fever, myalgia, headache, and chills. After the prodromal phase, symptoms of hantavirus pulmonary syndrome (HPS) may develop. Non-HPS hantavirus infection is a febrile illness with non-specific signs and symptoms including fever, chills, myalgia, headache, and gastrointestinal symptoms, but no cardio-pulmonary symptoms. Clinical laboratory findings may include hemoconcentration, left shift in white blood cell count, neutrophilic leukocytosis, thrombocytopenia, and circulating immunoblasts. HPS is an acute febrile illness characterized by non-specific viral symptoms including fever, chills, myalgia, headache, and gastrointestinal symptoms, and one or more of the following clinical features: ▪ Bilateral diffuse interstitial edema, **OR** ▪ Clinical diagnosis of acute respiratory distress syndrome (ARDS), **OR** ▪ Radiographic evidence of noncardiogenic pulmonary edema, **OR** ▪ Unexplained respiratory illness resulting in death, and includes autopsy examination demonstrating noncardiogenic pulmonary edema without an identifiable cause, **OR** ▪ Healthcare record with a diagnosis of HPS **OR** ▪ Death certificate that lists HPS as a cause of death or a significant condition contributing to death ***Confirmed:*** A clinically compatible case of HPS or non-HPS hantavirus infection with confirmatory laboratory results	▪ Detection of hantavirus-specific IgM* or rising titers of hantavirus-specific IgG, **OR** ▪ Detection of hantavirus-specific ribonucleic acid sequence in clinical specimens, **OR** ▪ Detection of hantavirus antigen by IHC in lung biopsy or autopsy tissues *Due to the high rate of false positives at commercial labs, a sample should be forwarded to DSHS for confirmatory testing

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Hemolytic uremic syndrome, postdiarrheal (HUS) 11550	Hemolytic uremic syndrome (HUS) is characterized by the acute onset of microangiopathic hemolytic anemia, renal injury, and low platelet count. Thrombotic thrombocytopenic purpura (TTP) also is characterized by these features but can include central nervous system (CNS) involvement and fever and can have a more gradual onset. Most cases of HUS (but few cases of TTP) occur after an acute gastrointestinal illness (usually diarrheal). ***Confirmed:*** An acute illness diagnosed as HUS or TTP that both meets the laboratory criteria and began within 3 weeks after onset of an episode of acute or bloody diarrhea ***Probable:*** ▪ An acute illness diagnosed as HUS or TTP that meets the laboratory criteria in a patient who does not have a clear history of acute or bloody diarrhea in preceding 3 weeks, **OR** ▪ An acute illness diagnosed as HUS or TTP, that a) has onset within 3 weeks after onset of an acute or bloody diarrhea and b) meets the laboratory criteria except that microangiopathic changes are not confirmed Note: See Shiga toxin-producing *Escherichia coli* (STEC) Cases meeting the criteria for both conditions should be reported under each condition.	The following are both present at some time during the illness: ▪ Anemia (acute onset) with microangiopathic changes (i.e., schistocytes, burr cells, or helmet cells) on peripheral blood smear, **AND** ▪ Renal injury (acute onset) evidenced by either hematuria, proteinuria, or elevated creatinine level (i.e., greater than or equal to 1.0 mg/dL in a child aged less than 13 years or greater than or equal to 1.5 mg/dL in a person aged greater than or equal to 13 years, or greater than or equal to 50% increase over baseline) Note: A low platelet count can usually, but not always, be detected early in the illness, but it can then become normal or even high. If a platelet count obtained within 7 days after onset of the acute gastrointestinal illness is not less than 150,000/mm3, other diagnoses should be considered.
Hepatitis A, acute 10110	An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), **AND** either a) jaundice, or b) elevated serum alanine aminotransferase (ALT) or aspartate aminotransferase (AST) levels. ***Confirmed:*** A case that meets the clinical case definition and is laboratory confirmed, **OR** a case that meets the clinical case definition and occurs in a person who has an epidemiological link with a person who has laboratory-confirmed hepatitis A (i.e., household or sexual contact with an infected person during the 15-50 days before the onset of symptoms)	▪ Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV IgM) positive

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Hepatitis B, acute 10100	An acute illness with a discrete onset of any sign or symptom* consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), **AND** either b) jaundice, or c) elevated serum alanine aminotransferase levels (ALT) >100 IU/L. ***Confirmed*:** A case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis B** *A documented negative hepatitis B surface antigen (HBsAg) laboratory test result within 6 months prior to a positive test result (i.e., HBsAg, hepatitis B "e" antigen [HBeAg], or hepatitis B virus nucleic acid testing [HBV NAT] including genotype) does not require an acute clinical presentation to meet the surveillance case definition. **A person should be considered chronically infected if hepatitis B antigen tests (HBsAg, HBeAg, and/or nucleic acid tests) have been positive for 6 months or longer or if the patient has a history of chronic hepatitis B diagnosis.	▪ Hepatitis B surface antigen (HBsAg) positive, **AND** ▪ IgM antibody to hepatitis B core antigen (anti-HBc IgM) positive (if done)
Hepatitis B virus infection, perinatal 10104	Perinatal hepatitis B (HBV) in the newborn can range from asymptomatic to fulminant hepatitis. ***Confirmed***: Child born in the US to a HBV-infected mother and positive for HBsAg at ≥ 1 month of age and ≤ 24 months of age OR positive for HBeAg or HBV DNA ≥9 months of age and ≤ 24 months of age. ***Probable***: Child born in the US and positive for HBsAg at ≥ 1 month of age and ≤ 24 months of age OR positive for HBeAg or HBV DNA ≥9 months of age and ≤ 24 months of age, but whose mother's hepatitis B status is unknown (i.e. epidemiologic linkage not present). Notes: If the mother is known to be NOT infected with HBV, refer to the case definition for acute Hepatitis B. These definitions are used for surveillance purposes only, not for perinatal hepatitis B prevention case management purposes.	▪ Hepatitis B surface antigen (HBsAg) positive, hepatitis B e antigen (HBeAg) positive, or detectable Hepatitis B virus DNA (HBV DNA) Note: HBsAg must be tested more than 4 weeks after last dose of hepatitis B vaccine to be considered confirmatory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Hepatitis C, acute 10101	An acute illness with discrete onset of symptoms* consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), and a) jaundice or b) abnormal serum alanine aminotransferase levels (ALT level >200 IU/L). ***Confirmed:*** A case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis C (HCV) *A documented negative HCV antibody laboratory test result followed within 12 months by a positive test (as described in the laboratory criteria for diagnosis) result does not require an acute clinical presentation to meet the surveillance case definition.	▪ Anti-HCV screening-test-positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay defined and listed by CDC at http://www.cdc.gov/hepatitis/HCV/LabTesting.htm , **OR** ▪ Recombinant immunoblot assay (HCV RIBA) positive, **OR** ▪ Nucleic acid testing (NAT) for HCV RNA positive (including genotype); **AND,** if done, meets the following two criteria: ▪ IgM antibody to hepatitis A virus (IgM anti-HAV) negative, **AND** ▪ IgM antibody to hepatitis B core antigen (IgM anti-HBc) negative
Hepatitis E, acute 10103	Typical clinical signs and symptoms of acute hepatitis E virus (HEV) are similar to those of other types of acute viral hepatitis and include abdominal pain anorexia, dark urine, fever, hepatomegaly, jaundice, malaise, nausea, and vomiting. Other less common symptoms include arthralgia, diarrhea, pruritus, and urticarial rash. The period of infectivity following acute infection has not been determined but virus excretion in stools has been demonstrated up to 14 days after illness onset. In most hepatitis E outbreaks, the highest rates of clinically evident disease have been in young to middle-age adults; lower disease rates in younger age groups can be the result of anicteric and/or subclinical HEV infection. No evidence of chronic infection has been detected in long-term follow-up of patients with hepatitis E. The case fatality rate is low except in pregnant women where it can reach 20% among those infected during the third trimester of pregnancy. ***Confirmed*:** A case that meets the clinical case description and is laboratory confirmed ***Probable:*** A case that meets the clinical case description with supportive laboratory evidence (positive IgM antibody from labs other than CDC), **OR** negative tests for other acute hepatitis markers and an epidemiological link to other confirmed cases or travel history to an endemic area during exposure period	▪ IgM anti-HEV from CDC laboratory or PCR positive from reference laboratory Note: No FDA approved tests to diagnose HEV infection are available in the United States.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Hookworm (ancylostomiasis) 80760	Hookworm (ancylostomiasis) is a soil-transmitted helminth. Symptoms may include cough, itchy rash, abdominal discomfort, diarrhea, blood in the stool, loss of appetite, nausea, fatigue, or pale skin. Light hookworm infections generally produce few or no clinical effects. In heavy infections, blood loss at the site of the intestinal attachment of adult worms leads to iron deficiency anemia. In rare cases, prolonged, severe anemia can result in congestive heart failure and death. Children with heavy long-term infection may have impaired growth and delayed mental development due to the loss of iron and protein. ***Confirmed:*** A case that is laboratory confirmed	▪ Microscopic identification of *Ancylostoma* or *Necator* eggs in feces, **OR** ▪ Microscopic identification of *Ancylostoma* or *Necator* species of larvae cultured from the feces, **OR** ▪ Identification of adult worms expelled after treatment
Influenza, human isolates - **[outbreaks only]** 11060	The flu is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and at times can lead to death. Symptoms of flu can include fever, headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. Stomach symptoms (nausea, vomiting, and diarrhea) can occur but are more common in children than adults. Complications of flu can include bacterial pneumonia, ear infections, sinus infections, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes. *Confirmed:* Case that is clinically compatible and laboratory confirmed Note: Influenza is not a reportable condition in Texas. See Influenza A, novel/variant infection for reporting of novel/variant strains. See Influenza-associated pediatric mortality for reporting of influenza-associated deaths in all persons aged <18 years.	▪ Influenza virus isolation in tissue cell culture from respiratory specimens, **OR** ▪ Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens, **OR** ▪ Immunofluorescent antibody staining (direct or indirect) of respiratory specimens, **OR** ▪ Rapid influenza diagnostic testing of respiratory specimens, **OR** ▪ Immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract tissue from autopsy specimens, **OR** ▪ Four-fold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Influenza A, novel/variant 11062	An illness compatible with influenza virus infection (fever >100 degrees Fahrenheit, with cough and/or sore throat) ***Confirmed:*** A case of human infection with a laboratory confirmed novel/variant influenza A virus ***Probable:*** A case meeting the clinical criteria and epidemiologically linked to a confirmed case, but for which no confirmatory laboratory testing for novel/variant influenza virus infection has been performed or test results are inconclusive for a novel/variant influenza A virus infection Criteria for epidemiologic linkage: a) the patient has had contact with one or more persons who either have or had the disease and b) transmission of the agent by the usual modes of transmission is plausible. A case can be considered epidemiologically linked to a laboratory-confirmed case if at least one case in the chain of transmission is laboratory confirmed. *Suspect:* A case meeting the clinical criteria in which influenza A has been detected but is pending laboratory confirmation. Any case of human infection with an influenza A virus that is different from currently circulating human influenza H1 and H3 viruses is classified as a suspect case until the confirmation process is complete. Note: Typically, sporadic novel/variant influenza cases will have a history of either close contact with ill animals known to transmit novel subtypes of influenza A (such as wild birds or poultry, swine or other mammals) **OR** travel, within 14 days, to any country where a novel influenza A virus (such as highly pathogenic avian influenza A H5N1) has been recently identified in animals or people.	Identification of an influenza A virus subtype or strain that is different from currently circulating human influenza H1 and H3 strains as confirmed by CDC's influenza laboratory, by public health laboratories using CDC-approved protocols for that specific strain, or by labs using FDA-authorized tests for specific strains. ▪ Novel/variant subtypes include, but are not limited to, H2, H5, H7, and H9 subtypes. ▪ Influenza H1 and H3 subtypes originating from a non-human species or from genetic re-assortment between animal and human viruses are also novel/variant subtypes or strains. ▪ Methods available for detection of currently circulating human influenza viruses at public health laboratories (e.g., rRT-PCR) will also detect suspected novel/variant subtypes and strains. ▪ Initial confirmation that a specific influenza A virus represents a novel/variant virus will be performed by CDC's influenza laboratory. ▪ Currently, only viral isolation, RT-PCR, gene sequencing, or a 4-fold rise in strain-specific serum antibody titers are considered confirmatory for case classification purposes.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Influenza-associated pediatric mortality 11061	An influenza-associated death is defined for surveillance purposes as a death resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test. There should be no period of complete recovery between the illness and death. Influenza-associated deaths in all persons aged <18 years should be reported. A death should not be reported if there is no laboratory confirmation of influenza virus infection, the influenza illness is followed by full recovery to baseline health status prior to death, the death occurs in a person 18 years of age or older, or after review and consultation there is an alternative agreed upon cause of death which is unrelated to an infectious process (For example, a child with a positive influenza test whose death clearly resulted from trauma after a car accident would not qualify as a case. However, a child with a respiratory illness and a positive influenza test whose death is attributed to another infectious cause such as staphylococcal pneumonia would still qualify as a case.). ***Confirmed:*** A death meeting the clinical case definition that is laboratory confirmed	Laboratory testing for influenza virus infection can be done on pre- or post-mortem clinical specimens, and may include identification of influenza A or B virus infections by a positive result by at least one of the following: ▪ Influenza virus isolation in tissue cell culture from respiratory specimens, **OR** ▪ Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens, **OR** ▪ Immunofluorescent antibody staining (direct or indirect) of respiratory specimens, **OR** ▪ Rapid influenza diagnostic testing of respiratory specimens, **OR** ▪ Immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract tissue from autopsy specimens, **OR** ▪ Four-fold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Legionellosis 10490	Legionellosis is associated with two clinically and epidemiologically distinct illnesses: Legionnaires' disease, which is characterized by fever, myalgia, cough, and clinical or radiological pneumonia; and Pontiac fever, a milder illness without pneumonia. ***Confirmed:*** A clinically compatible case that meets at least one of the confirmatory laboratory criteria	▪ Isolation (culture) of **any** *Legionella* organism from respiratory secretions, lung tissue, pleural fluid, or other normally sterile fluid, **OR** ▪ Detection of *Legionella pneumophila* serogroup 1 antigen in urine using validated reagents, **OR** ▪ Demonstration of seroconversion by a fourfold or greater rise in specific serum antibody titer between paired acute and convalescent phase serum specimens to *Legionella pneumophila* serogroup 1 using validated reagents
Leishmaniasis 80550	Leishmaniasis is a polymorphic protozoan disease of skin and mucous membranes. The disease starts with a macule then a papule that enlarges and typically becomes an indolent ulcer in the absence of bacterial infection. Lesions can be single or multiple, occasionally nonulcerative and diffuse. Lesions can heal spontaneously within weeks to months, or last for a year or more. In some individuals, certain *Leishmania* strains can disseminate to cause mucosal lesions (espundia) even years after the primary cutaneous lesion has healed. These sequelae, which involve nasopharyngeal tissues, are characterized by progressive tissue destruction and often scanty presence of parasites, and can be severely disfiguring. Recurrence of cutaneous lesions after apparent cure can occur as ulcers, papules, or nodules at or near the healed original ulcer. Mode of transmission to humans is through the bite of infected female phlebotomine sandflies. ***Confirmed:*** A clinically compatible case that is laboratory confirmed	▪ Microscopic identification of the nonmotile, intracellular form (amastigote) in stained specimens from lesions, **OR** ▪ Culture of the motile, extracellular form (promastigote) on suitable media, **OR** ▪ An intradermal (Montenegro) test with leishmanin, an antigen derived from the promastigotes, is usually positive in established disease, **OR** ▪ Positive *Leishmania* Real-Time PCR or *Leishmania* PCR and DNA Sequencing at CDC

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Listeriosis 10640	In adults, invasive disease caused by *Listeria monocytogenes* manifests most commonly as meningitis or bacteremia; infection during pregnancy can result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Other manifestations can also be observed. ***Confirmed:*** A clinically compatible case that is laboratory confirmed Note: For fetal or neonatal (≤1 month of age) infections, the MOTHER is the case-patient. Note: a case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection	▪ Isolation of *L. monocytogenes* from a normally sterile site, e.g., blood, cerebrospinal fluid (CSF), or less commonly, joint, pleural, or pericardial fluid, **OR** ▪ In the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue, **OR** ▪ In the setting of pregnancy or live birth, isolation of *L. monocytogenes* from mother's or neonate's blood or other sterile site, or from placental or amniotic fluid See Normally Sterile Site Note: As required by *TAC* all *Listeria monocytogenes* isolates must be submitted to the DSHS laboratory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Lyme disease 11080	A systemic, tickborne disease with protean manifestations, including dermatologic, rheumatologic, neurologic, and cardiac abnormalities. The best clinical marker for the disease is the initial skin lesion, erythema migrans (EM). For most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mildly stiff neck, arthralgia, or myalgia ***Confirmed:*** A case with physician-diagnosed EM ≥ 5 cm in size with an exposure in a high-incidence state or country*, **OR** a case of physician-diagnosed EM ≥ 5 cm in size with laboratory confirmation with an exposure in a low-incidence state or country*, **OR** a case with at least one late manifestation** that has laboratory confirmation. *Exposure is defined as having been (≤ 30 days before onset of EM) in wooded, brushy, or grassy areas (i.e., potential tick habitats). An exposure in a high-incidence state is defined as exposure in a state with an average Lyme disease incidence of at least 10 confirmed cases/100,000 for the previous three reporting years. A low-incidence state is defined as a state with disease incidence of <10 confirmed cases/100,000 (http://www.cdc.gov/lyme/stats/tables.html). Texas is considered a low-incidence state for Lyme disease. **For purposes of surveillance, late manifestations include any of the following when an alternate explanation is not found: ▪ Musculoskeletal system: recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints, sometimes followed by chronic arthritis in one or a few joints. ▪ Nervous system: any of the following, alone or in combination: lymphocytic meningitis; cranial neuritis, particularly facial palsy (can be bilateral); radiculoneuropathy; or, rarely, encephalomyelitis. ▪ Cardiovascular system: acute onset of high-grade (2nd or 3rd-degree) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. ***Probable:*** Any other clinically compatible case of physician-diagnosed Lyme disease that has laboratory confirmation ***Suspect:*** A case of EM with no known exposure and no laboratory evidence of infection, **OR** a case with laboratory evidence of infection, but no clinical information available Note: Lyme disease reports will not be considered cases if the medical provider specifically states this is *not* a case of Lyme disease, or the only symptom listed is "tick bite" or "insect bite."	▪ Positive culture for *B. burgdorferi*, **OR** ▪ IgG immunoblot seropositivity using established criteria*** **OR** ▪ IgM immunoblot seropositivity using established criteria*** with ▪ Positive/Equivocal EIA or IFA test, **AND** ▪ Specimen collected ≤ 30 days after symptom onset Note: ***Immunoblot interpretation criteria: An IgM immunoblot is considered positive if 2 of the following 3 bands are present: 23 kDa or 24 kDa (OspC), 39 kDa (BmpA), and 41 kDa (Fla).An IgG immunoblot is considered positive if 5 of the following 10 bands are present: 18 kDa, 21 kDa (OspC), 28 kDa, 30 kDa, 39 kDa (BmpA), 41 kDa (Fla), 45 kDa, 58 kDa (not GroEL), 66 kDa, and 93 kDa. http://www.cdc.gov/mmwr/preview/mmwrhtml/00038469.htm (Updated 1995)

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Malaria 10130	Initial symptoms of malaria are non-specific and include fever, chills, sweats, headaches, muscle pains, nausea and vomiting In severe cases of malaria (usually caused by *Plasmodium falciparum*), clinical findings can also include confusion, coma, neurologic focal signs, severe anemia, and respiratory difficulties. ***Confirmed:*** A case that is laboratory confirmed **in any person (symptomatic or asymptomatic) *diagnosed in the United States*, regardless of whether the person experienced previous episodes of malaria while outside the country** *Suspect:* Detection of *Plasmodium* species by rapid diagnostic antigen testing (RDT) without confirmation by microscopy or nucleic acid testing in any person (symptomatic or asymptomatic) *diagnosed in the United States*, regardless of whether the person experienced previous episodes of malaria while outside the country Note: A subsequent attack experienced by the same person but caused by a different *Plasmodium* species is counted as an additional case. A subsequent attack experienced by the same person and caused by the same species in the U.S. may indicate a relapsing infection or treatment failure caused by drug resistance.	▪ Detection and specific identification of malaria parasite species by microscopy on blood films in a laboratory with appropriate expertise **OR** ▪ Detection of *Plasmodium* species by nucleic acid test* **OR** ▪ Detection of unspeciated malaria parasite by microscopy on blood films in a laboratory with appropriate expertise * Laboratory-developed malaria PCR tests must fulfill CLIA requirements, including validation studies.
Measles (Rubeola) 10140	An illness characterized by all of the following: a generalized maculopapular rash lasting at least 3 days; a temperature ≥ 101.0° F (>38.3 ° C); and cough, coryza, or conjunctivitis. ***Confirmed:*** An acute febrile rash illness (temperature can be lower than 101° and rash < 3 days) that is: ▪ Laboratory confirmed, **OR** ▪ Epidemiologically linked to a laboratory confirmed measles case	▪ IgG seroconversion or a significant rise in measles immunoglobulin G antibody level by any standard serologic assay *, **OR** ▪ Isolation of measles virus from a clinical specimen*, **OR** ▪ Detection of measles-virus-specific nucleic acid by PCR *, **OR** ▪ A positive serological test for measles immunoglobulin M antibody* not otherwise ruled out by other confirmatory testing or more specific measles testing in a public health laboratory *Not explained by MMR vaccination during the previous 6-45 days

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Meningococcal infection, invasive (*Neisseria meningitidis*) 10150	Invasive meningococcal disease manifests most commonly as meningitis and/or meningococcemia that can progress rapidly to purpura fulminans, shock, and death. However, other manifestations (e.g., pneumonia, myocarditis, endocarditis or pericarditis, arthritis, cervicitis) might be observed. ***Confirmed**:* A case that is laboratory confirmed ***Probable:*** A case that has one of the following: ▪ *N. meningitidis* antigen detection by immunohistochemistry (IHC) on formalin-fixed tissue ▪ *N. meningitidis* antigen detection by latex agglutination of CSF *Suspect:* A case that has one of the following: ▪ Clinical purpura fulminans in the absence of a positive blood culture ▪ Gram-negative diplococci, not yet identified, isolated from a normally sterile site (e.g., blood or CSF)	▪ Isolation of *Neisseria meningitidis* from a normally sterile site, **OR** ▪ Isolation of *N. meningitidis* from purpuric lesions, **OR** ▪ Detection of *N. meningitidis*-specific nucleic acid in a specimen obtained from a normally sterile site, using a validated polymerase chain reason (PCR) assay See Normally Sterile Site Note: As required by *TAC* all *Neisseria meningitidis* isolates from normally sterile sites and/or purpuric lesions must be submitted to the DSHS laboratory for typing and molecular analysis.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
MRSA - **[outbreaks only]** *Staphylococcus aureus,* methicillin-or oxacillin-resistant 11661	Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of *staphylococcus* that is resistant to certain antibiotics called beta-lactams. These antibiotics include methicillin and other more common antibiotics such as oxacillin, penicillin, and amoxicillin. MRSA in healthcare settings usually causes more severe and potentially life-threatening infections, such as bloodstream infections, surgical site infections, or pneumonia. The signs and symptoms will vary by the type and stage of the infection. In the community, most MRSA infections are skin infections that can appear as pustules or boils which often are red, swollen, painful, or have pus or other drainage. They often first look like spider bites or bumps that are red, swollen, and painful. These skin infections commonly occur at sites of visible skin trauma, such as cuts and abrasions, and areas of the body covered by hair (e.g., back of neck, groin, buttock, armpit, beard area of men). *Confirmed:* A case that is laboratory confirmed Additional information on MRSA can be found at: http://www.cdc.gov/mrsa/index.html	***MRSA confirmed*** Isolation of *Staphylococcus aureus* that shows resistance to oxacillin or cefoxitin by a reliable susceptibility test methodology from a clinical specimen. Resistance can be determined by: ▪ Cefoxitin disk diffusion test, **OR** ▪ Cefoxitin or Oxacillin MIC tests, **OR** ▪ Positive latex agglutination test for broad-spectrum beta-lactam (PBP2a), **OR** ▪ Growth on a plate containing 6 µg/ml of oxacillin in Mueller-Hinton agar supplemented with NaCl (4% w/v; 0.68 mol/L). Note: Nucleic acid amplification tests, such as the polymerase chain reaction (PCR), can be used to detect the *mecA* gene, which mediates oxacillin resistance in staphylococci. Methicillin is no longer commercially available in the United States.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Multidrug-resistant *Acinetobacter* (MDR-A) 40684	Multidrug-resistant *Acinetobacter* (MDR-A) are strictly aerobic gram-negative coccobacilli of the *Moraxellaceae* family and have more than 25 species within the genus. They have an intrinsic resistance factor that enables them to hydrolyze carbapenem, causing resistance to carbapenems and penicillins, and may circumvent additional classes of antibiotics by producing porins. Healthcare-associated *Acinetobacter* respiratory tract infections (including ventilator-associated pneumonia), catheter-related urinary tract infections, bloodstream infections, and wound infections have all been well documented in medical literature. In addition, there have been reports of *Acinetobacter* meningitis, endocarditis, osteomyelitis, and corneal perforation and infection associated with peritoneal dialysis. ***Confirmed***: *Acinetobacter* species from any body site/source that is laboratory confirmed.	***MDR-A confirmed*** Non-susceptible (i.e., resistant or intermediate) to at least one antibiotic in at least 3 antimicrobial classes of the following 6 antimicrobial classes: 1. βeta-Lactam (Piperacillin, Piperacillin/Tazobactam) 2. Aminoglycosides (Amikacin, Gentamicin, Tobramycin) 3. Carbapenems (Imipenem, Meropenem, Doripenem) 4. Fluoroquinolones (Ciprofloxacin, Levofloxacin) 5. Cephalosporins (Cefepime, Ceftazidime) 6. Sulbactam (Ampicillin/Sulbactam) Note: There is no requirement to submit isolates to the DSHS lab. Please contact a DSHS HAI Epidemiologist or the DSHS lab for additional information on available lab support.
Multidrug-resistant organisms (MDRO) (See specific organism for definition)	**See specific organism for definition (ie: CRE, MDR-A)**	
Mumps 10180	Acute parotitis or other salivary gland swelling lasting at least 2 days, or orchitis or oophoritis unexplained by another more likely diagnosis ***Confirmed:*** A case that has a positive mumps PCR result, **OR** positive mumps culture, **AND** either meets the clinical case definition, **OR** has aseptic meningitis, encephalitis, hearing loss, mastitis, or pancreatitis ***Probable:*** A case that meets the clinical case definition, **AND** ▪ Has a positive test for serum anti-mumps immunoglobulin M (IgM) antibody, **OR** ▪ Has an epidemiologic link to another probable or confirmed case or linkage to a group/community defined by public health during an outbreak of mumps	▪ Isolation of mumps virus from clinical specimen, **OR** ▪ Detection of mumps-virus-specific nucleic acid by PCR Note: An elevated serum amylase is not confirmatory for mumps.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Norovirus - [**outbreaks only**] 10996	Norovirus infection usually presents as acute-onset vomiting, watery non-bloody diarrhea with abdominal cramps, and nausea. Low-grade fever also occasionally occurs, and vomiting is more common in children. Dehydration is the most common complication, especially among the young and elderly, and can require medical attention. Symptoms usually last 24 to 60 hours. Recovery is usually complete and there is no evidence of any serious long-term sequelae. Studies with volunteers given stool filtrates have shown that asymptomatic infection can occur in as many as 30% of infections, although the role of asymptomatic infection in norovirus transmission is not well understood. *Confirmed:* A clinically compatible case that is laboratory confirmed *Probable:* Norovirus can be established as the probable cause of an outbreak if: ▪ The mean (or median) illness duration is 12 to 60 hours, **AND** ▪ The mean (or median) incubation period is 24 to 48 hours, **AND** ▪ More than 50% of people have vomiting, **AND** ▪ No bacterial agent is found	▪ Polymerase chain reaction (PCR) can be used to test stool and emesis samples, as well as environmental swabs in special studies. (Identification of norovirus can best be made from stool specimens taken within 48 to 72 hours after onset of symptoms. Virus can sometimes be found in stool samples taken as late as 2 weeks after recovery.) **OR** ▪ Detection of norovirus by direct and immune electron microscopy of fecal specimens, **OR** ▪ Fourfold increase of norovirus antibodies in acute- and convalescent-phase blood samples Note: The etiology of GI outbreaks should be confirmed by submitting specimens to the DSHS Laboratory. Sequencing of norovirus strains found in clinical and environmental samples has greatly helped in conducting epidemiologic investigations.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Novel coronavirus causing severe acute respiratory disease 10575	Severe acute respiratory syndrome (SARS) is a viral respiratory illness caused by a novel coronavirus. SARS was first identified in 2003 with the SARS-associated coronavirus (SARS-CoV). SARS-CoV has not been detected since the 2003 outbreak ended. However, in 2012 a new coronavirus causing an acute severe respiratory disease was detected in countries in or near the Arabian Peninsula--Middle East Respiratory Syndrome coronavirus (MERS-CoV). Symptoms of a novel coronavirus causing an acute respiratory syndrome may include fever and cough in addition to pneumonia or acute respiratory distress syndrome (ARDS). Clinical criteria for the specific novel coronavirus will be determined by the Centers for Disease Control and Prevention (CDC). Case definitions for confirmed, probable and suspect cases may be redefined based on the specific novel coronavirus. Additionally, CDC may require that patients undergo testing for alternate causes of infection including all clinically indicated tests for community acquired pneumonia, before being considered a probable or suspect case. ***Confirmed:*** A person who has laboratory confirmation of infection with a novel coronavirus ***Probable****:* A person who meets the criteria for a suspect case, has absent or inconclusive* laboratory results for novel coronavirus infection, and is a close contact** of a laboratory confirmed case *Suspect:* A person who meets the clinical criteria AND at least one of the following: 1) Has recent travel history to any country where a novel coronavirus has been recently identified in people 2) Has had close contact** with a symptomatic person who recently traveled to any country where a novel coronavirus has been recently identified in people 3) Is a member of a cluster of patients with severe acute respiratory illness (e.g., fever and pneumonia requiring hospitalization) of unknown etiology in which a novel coronavirus is being evaluated, in consultation with state and local health departments 4) Has a recent history of other relevant exposures, as defined by CDC *Examples of laboratory results that may be considered inconclusive include a positive test on a single PCR target, a positive test with an assay that has limited performance data available, or a negative test on an inadequate specimen. **See http://www.cdc.gov/coronavirus/mers/case-def.html for current MERS Patient Under Investigation (PUI) criteria for suspect cases and for the definition of "close contact".	▪ Identification of a novel coronavirus that is different from currently circulating human coronaviruses as confirmed by CDC's laboratory, by public health laboratories using CDC-approved protocols for a specific novel strain, or by labs using an FDA-approved test for a specific novel strain ▪ Initial confirmation that a specific coronavirus represents a novel virus will be determined by the CDC ▪ Other laboratory confirmation criteria may be defined by CDC for the specific novel coronavirus

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Outbreaks, exotic diseases, and unusual expression of disease Influenza, human isolates 11060 Norovirus 10996 *Staphylococcus aureus*, methicillin-or oxacillin-resistant (MRSA) 11661 Streptococcal toxic- shock syndrome 11700	In addition to specified reportable conditions, **any outbreak, exotic disease, or unusual group expression of disease that may be of public health concern should be reported** by the most expeditious means available.	
Paragonimiasis 80664	Paragonimiasis (lung fluke trematode) is transmitted by eating inadequately cooked crustaceans (primarily crayfish in the US) that are infected with the parasite. Disease most frequently involves the lungs. Initial signs and symptoms may be diarrhea and abdominal pain followed several days later by fever, chest pain, and fatigue. The symptoms may also include a dry cough, which later becomes productive with rusty-colored or blood-tinged sputum on exertion, and pleuritic chest pain. X-ray findings may include diffuse and/or segmental infiltrates, nodules, cavities, ring cysts and/or pleural effusions. Extrapulmonary disease is not uncommon, with flukes found in such sites as the CNS, subcutaneous tissues, intestinal wall, peritoneal cavity, liver, lymph nodes and genitourinary tract. Infection usually lasts for years, and the infected person may be asymptomatic. Paragonimiasis may be mistaken for tuberculosis, clinically and on chest X-rays. ***Confirmed:*** A case that is laboratory confirmed ***Probable***: A clinically compatible case with ▪ Detection of *Paragonimus* antibodies by CF, EIA, or immunoblot, or ▪ Positive skin test for *Paragonimus*, or ▪ History of ingestion of inadequately cooked crustaceans and marked eosinophilia with total WBC count in the normal range or supportive x-ray findings	▪ Microscopic identification of *Paragonimus* eggs in feces, sputum, pleural fluid, CSF, or pus, **OR** ▪ Identification of worms or eggs in biopsies of pulmonary, cerebral, subcutaneous, or intra-abdominal nodules or cystic lesions

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests

Pertussis
10190
	A cough illness lasting at least 14 days AND at least one of the following additional symptoms and without other apparent cause:
	▪ Paroxysmal coughing, **OR**
	▪ Inspiratory "whoop," **OR**
	▪ Post-tussive vomiting, **OR**
	▪ **If under 1 year old**, apnea with or without cyanosis
	
	Confirmed: Must meet one of the following criteria:
	▪ A person with an acute cough illness of any duration who is culture positive, **OR**
	▪ A person who meets the clinical case definition and is PCR positive, **OR**
	▪ A person who meets the clinical case definition and is epidemiologically linked to a laboratory-confirmed case.
	
	***Probable*:** A patient must meet one of the following criteria (in the absence of a more likely diagnosis):
	▪ A person who meets the clinical case definition but is not laboratory confirmed (not tested, tests are negative or tested by serology or DFA), and is not epidemiologically linked to a laboratory-confirmed case
	▪ **Is an infant** with an acute cough illness of any duration with at least one of the additional symptoms from the clinical criteria AND is either
	  ▪ PCR positive, **OR**
	  ▪ Epidemiologically linked to a laboratory-confirmed case
	
	Note: An illness meeting the clinical case definition should be classified as "probable" rather than "confirmed" if it occurs in a patient who has contact with an infant aged <1 year who is PCR positive for pertussis and has ≥1 sign or symptom and cough duration <14 days (classified as "probable" case).
		▪ Isolation (culture) of *Bordetella pertussis* from a clinical specimen,
		OR
		▪ Positive polymerase chain reaction (PCR) assay for *Bordetella pertussis*
		
		Note: Because *B. pertussis* can be difficult to culture, a negative culture result does not rule out pertussis. Negative PCR results do not require investigation unless reported as a suspected case by a healthcare provider. Direct fluorescent antibody (DFA) staining of a patient's specimen and serological laboratory results (pertussis IgA, IgG or IgM) are **NOT** considered confirmatory for pertussis, but should be investigated as soon as possible.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Plague 10440	Plague is transmitted to humans by fleas or by direct exposure to infected tissues or respiratory droplets. The disease is characterized by fever, chills, headache, malaise, prostration, and leukocytosis that manifests in one or more of the following principal clinical forms: ▪ Regional lymphadenitis (bubonic plague), **OR** ▪ Septicemia without an evident bubo (septicemic plague), **OR** ▪ Pneumonia, resulting from hematogenous spread in bubonic or septicemic cases (secondary pneumonic plague) or inhalation of infectious droplets (primary pneumonic plague), **OR** ▪ Pharyngitis and cervical lymphadenitis resulting from exposure to larger infectious droplets or ingestion of infected tissues (pharyngeal plague) ***Confirmed:*** A clinically compatible case with confirmatory laboratory result ***Probable:*** A clinically compatible case with a presumptive laboratory result ▪ Elevated serum antibody titer(s) to *Y. pestis* fraction 1 (F1) antigen (without documented four-fold or greater change) in a patient with no history of plague vaccination, **OR** ▪ Detection of F1 antigen in a clinical specimen by fluorescent assay *Suspect:* A clinically compatible case without presumptive or confirmatory laboratory results	▪ Isolation of *Yersinia pestis* from a clinical specimen, **OR** ▪ Four-fold or greater change in serum antibody titer to *Y. pestis* F1 antigen For isolates of other species of *Yersinia*, see Yersiniosis Note: As required by *TAC*, all *Y. pestis* isolates must be submitted to the DSHS laboratory.
Poliomyelitis, paralytic 10410	Acute onset of a flaccid paralysis of one or more limbs with decreased or absent tendon reflexes in the affected limbs, without other apparent cause, and without sensory or cognitive loss ***Confirmed*:*** A case that meets the clinical case definition in which the patient has a neurological deficit 60 days after onset of initial symptoms, has died, or has unknown follow-up status ***Probable*:*** A case that meets the clinical case definition *Note: All suspected cases of paralytic poliomyelitis are reviewed by a panel of expert consultants at the Centers for Disease Control and Prevention (CDC) before final case classification occurs.	▪ Isolation of poliovirus type 1, 2, or 3 from a clinical specimen (stool or CSF)
Poliovirus infection, nonparalytic 10405	Most poliovirus infections are asymptomatic or cause mild febrile disease. ***Confirmed:*** Laboratory confirmed poliovirus infection in a person without symptoms of paralytic poliomyelitis	▪ Poliovirus isolate identified in an appropriate clinical specimen, with confirmatory typing and sequencing performed by the CDC Poliovirus Laboratory

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Powassan virus	See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus, Neuroinvasive and Non-neuroinvasive
Primary amebic meningoencephalitis (PAM)	See Amebic meningoencephalitis (PAM)	

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Prion diseases such as Creutzfeldt-Jakob disease (CJD) 80060 (continued on next page)	Creutzfeldt-Jakob disease (CJD) is a human prion disease described as rapidly progressive, invariably fatal, and neurodegenerative. Human prion diseases include sporadic forms of disease (sporadic CJD, sporadic Fatal Insomnia, Variably Protease-Sensitive Prionopathy), genetic or familial forms of disease (familial CJD, Familial Fatal Insomnia, and Gerstmann-Sträussler-Scheinker disease) and acquired forms of disease (iatrogenic CJD and variant CJD). Classical sporadic CJD presentation consists of rapidly progressive dementia, visual abnormalities, myoclonus, or cerebellar dysfunction (where both balance abnormalities and muscle incoordination are seen which commonly present as gait, speech, and swallowing disorders). Most patients eventually develop pyramidal and extrapyramidal dysfunction such as abnormal reflexes (hyperreflexia), spasticity, tremors, and rigidity. Akinetic mutism appears late in the disease. Median duration of illness is 4 months; the duration of illness rarely exceeds 12 months. **For purposes of surveillance, CJD notification also includes Kuru, Gerstmann-Sträussler-Scheinker (GSS) disease, fatal familial insomnia (FFI), sporadic fatal insomnia (sFI), Variably Protease-Sensitive Prionopathy (VPSPr) and any novel prion disease affecting humans.** **Sporadic CJD (sCJD):** ***Confirmed:*** Satisfactory confirmatory test finding on autopsy or biopsy tissue ***Probable:*** Rapidly progressive dementia **AND** at least two of the following clinical features: a) Myoclonus b) Visual Or Cerebellar Signs c) Pyramidal/Extrapyramidal Signs d) Akinetic Mutism **AND** satisfying at least 1 of the supportive laboratory criteria, **AND** absence of routine investigations indicating an alternative diagnosis ***Possible:*** Progressive dementia **AND** at least two of the following clinical features: a) Myoclonus b) Visual Or Cerebellar Signs c) Pyramidal / Extrapyramidal Signs d) Akinetic mutism **WITH** a duration of illness < 2 years, **AND** the absence of supportive laboratories, **AND** the absence of routine investigations indicating an alternative diagnosis	**Confirmatory Laboratory Criteria - sporadic, genetic, & iatrogenic CJD** Diagnosis by standard neuropathological techniques **AND/OR** Immunohistocytochemistry **AND/OR** Western blot **AND/OR** Presence of scrapie-associated fibrils from biopsy or autopsy obtained brain tissue **Supportive Laboratory Criteria - sporadic, genetic, & iatrogenic CJD** ▪ ***CSF 14-3-3 protein:*** ELISA reported as elevated or above normal limits or Western blot reported positive. If 14-3-3 protein is the only supportive test used in determining classification, then duration of illness must be < 2 years. ▪ ***RT-QuIC:*** Positive ▪ ***Tau protein:*** Positive ▪ ***EEG:*** Reported as "typical of" or "consistent with" sporadic CJD or the report indicates the presence of generalized bi- or triphasic "periodic sharp wave complexes" (PSWC) at a frequency of 1-2 per second. No limit on duration of illness. ▪ ***MRI:*** High signal abnormalities in the caudate nucleus and/or putamen on diffusion-weighted imaging (DWI) or fluid attenuated inversion recovery (FLAIR). No limitation on duration of illness. (Continued on next page– see Exclusion Criteria.)

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Prion diseases such as Creutzfeldt-Jakob disease (CJD) (continued on next page)	**Iatrogenic CJD (iCJD):** ***Confirmed:*** Progressive cerebellar syndrome in a recipient of human cadaveric-derived pituitary hormone **OR** meets sCJD criteria WITH a recognized exposure risk (e.g., dura matter grafts) **Familial CJD (fCJD):** A classification of ***confirmed*** or ***probable*** requires that the criteria for sCJD are met **plus** the presence of a confirmed or probable CJD classification in a first degree relative **AND/OR** a neuropsychiatric disorder plus fCJD-specific PRNP gene mutation are present. **Familial Fatal Insomnia (FFI):** Meets the fCJD classification criteria **AND** pathology demonstrates thalamic atrophy AND/OR presence of a FFI-specific PRNP gene mutation **Sporadic Fatal Insomnia (sFI):** Classification follows FFI criteria but is not epi-linked (no 1st degree relatives with evidence of disease). On pathology the glycosylation pattern is similar to sCJD rather than to FFI. **Gerstmann-Sträussler-Scheinker disease (GSS):** A family with dominantly inherited progressive ataxia and/or dementia and one of a variety of PRNP mutations. Confirmatory Laboratory Criteria: Encephalo(myelo)pathy with multi-centric PrP plaques **AND** thalamic degeneration WITH a background of variable spongiform change in cerebrum **Kuru:** Spongiform encephalopathy epidemiologically linked to the Fore population of Papua New- Guinea	**Exclusion Criterion:** On neurohistopathological analysis of whole brain autopsy tissue, the absence of findings consistent with prion disease (negative results) is sufficient to "rule out" possible and probable cases and reclassify as "Not a Case". Notes: Whole brain autopsy and neuropathology is the only way to confirm or rule-out prion disease. Biopsy tissue can only confirm presence of prion disease but is not sufficient to rule-out prion disease. Autopsy or postmortem biopsy (when autopsy is not possible) is strongly encouraged, while biopsy on living patients should be reserved for diagnosing treatable diseases. The National Prion Disease Pathology Surveillance Center (NPDPSC) performs analysis on CSF, blood, and brain tissue. They provide free transport, shipping, and autopsy services for suspected cases of CJD (the family must initiate contact). Physicians are strongly encouraged to confirm the diagnosis of CJD by discussing & arranging autopsy with the NPDPSC and family members. Autopsy is "highly suggested" for all cases with onset age under 55 years or physician diagnosed CJD.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Prion diseases such as Creutzfeldt-Jakob disease (CJD)	**Variant CJD (vCJD)** is characterized by epidemiologic exposure to the causative agent of bovine spongiform encephalopathy (BSE) through consumption of contaminated meat, a prolonged incubation period of ~ 8 years (possibly decades), and presence of a neuropsychiatric disease that is progressive and invariably fatal. Median age at onset of symptoms is 28 years. Clinical presentation: early psychiatric symptoms (anxiety/depression), paraesthesia, delayed development of neurologic signs (> 4 months), and duration of illness lasting over 6 months. ***Confirmed:*** Confirmatory laboratory criteria are met *Suspect**: The following criteria are met: a) Current age or age at death <55 years (a brain autopsy is recommended, however, for all physician-diagnosed CJD cases) b) Psychiatric symptoms at illness onset **AND/OR** persistent painful sensory symptoms (frank pain and/or dysesthesia) c) Dementia **AND** development >4 months after illness onset of at least two of the following five neurologic signs: poor coordination, myoclonus, chorea, hyperreflexia, or visual signs. (If persistent painful sensory symptoms exist, >4 months delay in the development of the neurologic signs is not required.) d) A normal or an abnormal EEG, BUT NOT the diagnostic EEG changes often seen in classic CJD e) Duration of illness of over 6 months f) Routine investigations of the patient do not suggest an alternative, non-CJD diagnosis g) No history of receipt of cadaveric human pituitary growth hormone or a dura mater graft h) No history of CJD in a first degree relative or PRNP gene mutation in the patient **OR** ▪ Presence of "bilateral pulvinar high signal" or "pulvinar sign" or "symmetrical, bilateral high signal in the posterior thalamic nuclei" on MRI, **AND** ▪ Presence of all of the following: a progressive neuropsychiatric disorder, d, e, f, & g of the above criteria AND four of the following five criteria: ▪ Early psychiatric symptoms (anxiety, apathy, delusions, depression, withdrawal) ▪ Persistent painful sensory symptoms (frank pain and/or dysesthesia, and/or paraesthesia) ▪ Ataxia ▪ Myoclonus or chorea or dystonia ▪ Dementia ***A history of possible exposure to bovine spongiform encephalopathy (BSE) such as residence or travel to a BSE-affected country after 1980 increases the index of suspicion for a variant CJD diagnosis.	**Confirmatory Laboratory Criteria – vCJD (brain tissue)** ▪ Numerous widespread kuru-type amyloid plaques surrounded by vacuoles in both the cerebellum and cerebrum (i.e., florid plaques) **AND** ▪ Spongiform change and extensive prion protein deposition shown by immunohistochemistry throughout the cerebellum and cerebrum **Supportive Laboratory Criteria - vCJD** ▪ EEG with normal or abnormal findings BUT WITHOUT findings consistent with sporadic CJD (absence of "periodic sharp wave complexes" - PSWC), **OR** EEG not reported or performed ▪ Presence of "bilateral pulvinar high signal" **OR** "pulvinar sign" **OR** "symmetrical, bilateral high signal in the posterior thalamic nuclei" on MRI (relative to other deep gray-matter nuclei) Notes: Whole brain autopsy and neuropathology is the only way to confirm or rule-out prion disease. Biopsy tissue can only confirm presence of prion disease but is not sufficient to rule-out prion disease. Autopsy or postmortem biopsy (when autopsy is not possible) is strongly encouraged, while biopsy on living patients should be reserved for diagnosing treatable diseases. The National Prion Disease Pathology Surveillance Center (NPDPSC) performs analysis on CSF, blood, and brain tissue. They provide free transport, shipping, and autopsy services for suspected cases of CJD (the family must initiate contact). Physicians are strongly encouraged to confirm the diagnosis of CJD by discussing & arranging autopsy with the NPDPSC and family members. Autopsy is "highly suggested" for all cases with onset age under 55 years or physician diagnosed CJD.

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Q Fever, acute 10257	Q fever is a zoonotic disease caused by the rickettsia *Coxiella burnetii*. Asymptomatic infection occurs in approximately half of those infected. Exposure to Q fever is usually via aerosol, and the source can be unknown (especially for chronic infection). Exposure can be associated with goats, sheep, or other livestock, but direct contact with animals is not required, and variable incubation periods can be dose dependent. Acute infection, if symptomatic, is characterized by acute onset of fever accompanied by rigors, myalgia, malaise, and severe retrobulbar headache, and can include fatigue, night sweats, dyspnea, confusion, nausea, diarrhea, abdominal pain, vomiting, non-productive cough, or chest pain. Acute hepatitis, atypical pneumonia, and meningoencephalitis may be present with severe disease. Pregnant women are at risk for fetal death and abortion. Clinical laboratory findings can include elevated liver enzyme levels, leukocytosis, and thrombocytopenia. ***Confirmed:*** A clinically compatible case that is laboratory confirmed ***Probable:*** A clinically compatible case with a single supportive IgG-specific antibody titer to *C. burnetii* Phase II antigen of ≥1:128 by IFA, **OR** serological evidence of elevated IgG or IgM antibody titer to *C. burnetii* by ELISA, dot-ELISA, or LA	▪ Serological evidence of a four-fold change in IgG-specific antibody titer to *C. burnetii* Phase II antigen by IFA between paired serum samples (one taken during the first week of illness and a second 3-6 weeks later), **OR** ▪ Detection of *C. burnetii* DNA in a clinical specimen by PCR, **OR** ▪ Demonstration of *C. burnetii* antigen in a clinical specimen by IHC, **OR** ▪ Isolation of *C. burnetii* from a clinical specimen in cell culture
Q Fever, chronic 10258	Chronic Q fever is characterized by a *Coxiella burnetii* infection that persists for more than 6 months. Potentially fatal endocarditis can evolve months to years after acute infection, particularly in persons with underlying valvular disease. Infections of aneurysms and vascular prostheses have been reported. Immunocompromised individuals are particularly susceptible. Rare cases of chronic hepatitis without endocarditis, osteomyelitis, osteoarthritis, and pneumonitis have been described. *Clinical evidence*: Chronic hepatitis, osteomyelitis, osteoarthritis, or pneumonitis (in the absence of other known etiology); suspected infection of a vascular aneurysm or vascular prosthesis; or newly recognized, culture-negative endocarditis (particularly in a patient with previous valvulopathy or a compromised immune system). ***Confirmed:*** A clinically compatible (meets clinical evidence criteria) case of chronic illness that is laboratory confirmed ***Probable*:** A clinically compatible case of chronic illness with an antibody titer to *C. burnetii* Phase I IgG antigen that is ≥1:128 and <1:800 by IFA	▪ Serological evidence of IgG antibody to *C. burnetii* Phase I antigen of ≥1:800 by IFA **OR** ▪ Detection of *C. burnetii* DNA in a clinical specimen by PCR, **OR** ▪ Demonstration of *C. burnetii* antigen in a clinical specimen by IHC, **OR** ▪ Isolation of *C. burnetii* from a clinical specimen in cell culture

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Rabies, animal 10340	All warm-blooded animals, including humans, are susceptible to rabies. In Texas, skunks, bats, coyotes, and foxes are the most commonly infected animals. Domestic dogs, cats, and livestock usually acquire rabies infections from wild animals. Medical authorities distinguish between "furious" and "dumb" rabies on the basis of clinical signs. In the furious variety, the "mad dog" symptoms are pronounced. The animal is irritable and will snap and bite at real or imaginary objects. It can run for miles and attack anything in its path. The animal is extremely vicious and violent. Paralysis sets in shortly, usually affecting the hind legs first. Death follows four to seven days after the onset of clinical signs. In dumb rabies, the prominent symptoms are drowsiness and paralysis of the lower jaw. The animal can appear to have a bone lodged in its throat, sometimes causing owners to force open an animal's mouth to investigate and become unwittingly exposed to rabies. Animals with dumb rabies have no tendency to roam but will snap at movement. They are completely insensitive to pain, and usually become comatose and die from three to ten days after first symptoms appear. ***Confirmed:*** A case that is laboratory confirmed	▪ A positive DFA test (preferably performed on central nervous system tissue), **OR** ▪ Isolation of rabies virus (in cell culture or in a laboratory animal) **OR** ▪ Detection of Lyssavirus viral RNA using RT-PCR in saliva, CSF, or tissue **OR** ▪ Detection of rabies virus antigens in central nervous system tissues by IHC
Rabies, human 10460	Rabies is an acute encephalomyelitis that almost always progresses to coma or death within 10 days after the first symptom. ***Confirmed:*** A clinically compatible case that is laboratory confirmed by testing at a state or federal public health laboratory Note: Laboratory confirmation by all of the methods listed under "Lab Confirmation Tests" is strongly recommended.	▪ Detection of Lyssavirus antigens in a clinical specimen (preferably the brain or the nerves surrounding hair follicles in the nape of the neck) by DFA, **OR** ▪ Isolation (in cell culture or in a laboratory animal) of Lyssavirus from saliva, CSF, or central nervous system tissue, **OR** ▪ Identification of Lyssavirus specific antibody (i.e., by IFA or complete rabies virus neutralization at 1:5 dilution) in the CSF, **OR** ▪ Identification of Lyssavirus specific antibody (i.e., by IFA or complete rabies virus neutralization at 1:5 dilution) in the serum of an unvaccinated person, **OR** ▪ Detection of Lyssavirus viral RNA using RT-PCR in saliva, CSF, or tissue

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Rickettsiosis, unspecified 65466	Flea-borne typhus and spotted fever group rickettsioses (SFGR) are a group of vector-borne infections caused by some members of the genus *Rickettsia*. These infections can be difficult to differentiate clinically and serologically (due to antibody cross-reactivity). Illness is characterized by acute onset of fever that may be accompanied by headache, malaise, myalgia, nausea, vomiting, anorexia, and/or rash. *Clinical evidence:* Acute onset of fever and one or more of the following: rash, headache, nausea, vomiting, anorexia, myalgia, anemia, thrombocytopenia, or any hepatic transaminase elevation. ***Probable**:* Clinically compatible case (meets clinical evidence criteria) with serological evidence of elevated IgG or IgM antibody reactive with spotted fever and typhus group antigens by IFA (serologic titers of ≥1:128) that cannot be classified as either flea-borne typhus or SFGR Note: For "Rickettsiosis, unspecified," an undetermined case can only be classified as probable. This occurs when a case has compatible clinical criteria with laboratory evidence to support infection, but spotted fever and typhus fever group titers are equal and exposure history, diagnosis, and clinical information are ambiguous.	Note: Spotted fever group species are *R. aeschlimannii, R. africae, R. australis, R. conorii, R. heilongjiangensis, R. helvetica, R. honei, R. japonica, R. marmionii, R. massiliae, R. parkeri, R. rickettsii, R. sibirica, R. sibirica mongolotimonae, R. slovaca, R. felis,* and *R. akari*. Typhus fever group species include *R. prowazekii* and *R. typhi*.
Rubella 10200	An illness that has all the following characteristics: Acute onset of generalized maculopapular rash; temperature ≥99ºF (37.2ºC), if measured; and arthralgia/arthritis, lymphadenopathy, or conjunctivitis. ***Confirmed:*** A case that is clinically compatible and is laboratory confirmed or epidemiologically linked to a laboratory-confirmed case Note: Serum rubella IgM test results that are false positives have been reported in persons with other viral infections (e.g., acute infection with Epstein-Barr virus [infectious mononucleosis], recent cytomegalovirus infection, and parvovirus infection) or in the presence of rheumatoid factor. Patients who have laboratory evidence of recent measles infection are excluded.	▪ Isolation of rubella virus, **OR** ▪ Significant rise between acute- and convalescent-phase titers in serum rubella immunoglobulin G (IgG) antibody level* by any standard serologic assay, **OR** ▪ Positive serologic test for rubella-specific immunoglobulin M (IgM) antibody* not otherwise ruled out by more specific testing in a public health laboratory, **OR** ▪ Detection of rubella-virus-specific nucleic acid by PCR *Not explained by MMR vaccination during the previous 6-45 days.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Rubella, congenital syndrome 10370	An illness of newborns resulting from rubella infection *in utero* and characterized by signs or symptoms from the following categories: a) Cataracts/congenital glaucoma, congenital heart disease (most commonly patent ductus arteriosus or peripheral pulmonary artery stenosis), hearing loss, or pigmentary retinopathy b) Purpura, hepatosplenomegaly, jaundice, microcephaly, developmental delay, meingoencephalitis, or radiolucent bone disease ***Confirmed:*** A clinically consistent case that is laboratory confirmed ***Probable:*** A case that is not laboratory confirmed; that has any two complications listed in (a) of the clinical case definition or one complication from (a) and one from (b); and lacks evidence of any other etiology	▪ Isolation of rubella virus, **OR** ▪ Demonstration of rubella-specific immunoglobulin M (IgM) antibody, **OR** ▪ Infant rubella antibody level that persists at a higher level and for a longer period than expected from passive transfer of maternal antibody (i.e., rubella titer that does not drop at the expected rate of a twofold dilution per month), **OR** ▪ Detection of rubella-virus-specific nucleic acid by PCR
Saint Louis encephalitis virus (SLE)	See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus, Neuroinvasive and Non-neuroinvasive

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Salmonellosis 11000	An illness of variable severity commonly manifested by diarrhea, fever, abdominal pain, nausea, and sometimes vomiting. Asymptomatic infections can occur, and the organism can cause extraintestinal infections. ***Confirmed:*** A case that meets the laboratory criteria for diagnosis. When available, *Salmonella* serotype characterization should be reported ***Probable*:** ▪ A case with *Salmonella sp*. detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR** ▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis Note: Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases that should be reported. Note: A case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different serotype	▪ Isolation of *Salmonella* (except *S.* Typhi)* from a clinical specimen Note**:** *S. Typhi is reportable as Typhoid Fever.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Shiga toxin-producing *Escherichia coli* (STEC) 11563	An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness can be complicated by hemolytic uremic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP); asymptomatic infections also can occur and the organism can cause extraintestinal infections. ***Confirmed:*** A case that meets the laboratory criteria for diagnosis; when available, O and H antigen serotype characterization should be reported ***Probable:*** ▪ A case with isolation of *E. coli* O157 from a clinical specimen, without confirmation of H antigen or Shiga toxin-production, **OR** ▪ A clinically compatible case that is epidemiologically linked to a confirmed or probable case, **OR** ▪ Identification of an elevated antibody titer to a known Shiga toxin-producing *E. coli* serotype from a clinically compatible case, **OR** ▪ Identification of Shiga toxin in a specimen from a clinically compatible case without the isolation of the Shiga toxin-producing *E. coli* Note: Cases meeting confirmed or probable criteria for both STEC and HUS should be reported under each condition. Note: a case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection	▪ Isolation of Shiga toxin-producing *Escherichia coli* from a clinical specimen ▪ *Escherichia coli* O157:H7 isolates are assumed to be Shiga toxin-producing. Therefore, isolation alone qualifies a case as "confirmed." ▪ *Escherichia coli* non-O157:H7 isolates must also have Shiga toxin-production verified in order to qualify the case status as "confirmed." Shiga toxin can be demonstrated by EIA or PCR testing. ▪ EIA and/or PCR positive results for Shiga toxin-production, in the absence of an isolate, can only qualify a case as "probable." Note: As required by *TAC*, all *E.coli* 0157:H7, isolates or specimens from cases where Shiga-toxin activity is demonstrated must be submitted to the DSHS laboratory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Shigellosis 11010	An illness of variable severity characterized by diarrhea, fever, nausea, cramps, and tenesmus. Asymptomatic infections can occur. ***Confirmed:*** A case that meets the laboratory criteria for diagnosis. When available, *Shigella* serogroup or species and serotype characterization should be reported. ***Probable*:** ▪ A case with *Shigella* spp. or *Shigella*/EIEC detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR** ▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis Note: Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases that should be reported Note: A case should not be counted as a new case if laboratory results were reported within 90 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different serotype	▪ Isolation of *Shigella* from a clinical specimen

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Smallpox 11800	An illness with acute onset of fever ≥101º F (≥38.3 º C) followed by a rash characterized by firm, deep seated vesicles or pustules in the same stage of development without other apparent cause. ***Confirmed:*** A case of smallpox that is laboratory confirmed, or a case that meets the clinical case definition and is epidemiologically linked to a laboratory confirmed case ***Probable:*** A case that meets the clinical case definition without laboratory confirmation or epidemiological link to a confirmed case, **OR** a case with an atypical presentation of smallpox (e.g., hemorrhagic type, flat type, and variola sine eruptione) that has an epidemiological link to a confirmed case of smallpox (Detailed clinical description is available on the CDC web site, see https://emergency.cdc.gov/agent/smallpox/index.asp. *Suspect:* A case with a generalized, acute vesicular or pustular rash illness with fever preceding development of rash by 1-4 days Exclusion Criteria*:* A case can be excluded as a suspect or probable smallpox case if an alternative diagnosis fully explains the illness or appropriate clinical specimens are negative for laboratory criteria for smallpox. Note: The smallpox case definition above is to be used only during post-event surveillance. For pre-event surveillance purposes, where the likelihood of smallpox occurring is considered to be extremely low, the suggested approach to surveillance relies on a highly specific clinical case definition, which is focused on identifying a classic case (ordinary type) of smallpox. In the absence of known smallpox disease, the predictive value of a positive smallpox diagnostic test is extremely low, close to zero; therefore, testing to rule out smallpox should be limited to cases that fit the clinical case definition in order to lower the risk of obtaining a false positive test result. See https://emergency.cdc.gov/agent/smallpox/diagnosis/casedefinition.asp The case definition described in Guide A of the Smallpox Response Plan and Guidelines (Version 3) on the CDC bioterrorism preparedness website (URL: https://emergency.cdc.gov/agent/smallpox/prep/post-event-guidance.asp) includes different criteria for a suspect case than the smallpox case definition the Council of State and Territorial Epidemiologists approved for use in the National Notifiable Diseases Surveillance System (NNDSS). The smallpox case definition on the CDC bioterrorism web site is more sensitive and less specific than the case definition for the NNDSS, in that a "Suspect" case is defined as: "a case with febrile rash illness with fever preceding the development of rash by 1-4 days."	▪ Polymerase chain reaction (PCR) identification of variola DNA in a clinical specimen, **OR** ▪ Isolation of smallpox (variola) virus from a clinical specimen (Level D laboratory only; confirmed by variola PCR) Note: Laboratory diagnostic testing for variola virus should be conducted in a CDC Laboratory Response Network (LRN) laboratory utilizing LRN-approved PCR tests and protocols for variola virus. Initial confirmation of a smallpox outbreak requires additional testing at CDC. Generic orthopox PCR and negative stain electron microscopy (EM) identification of a pox virus in a clinical specimen are suggestive of an orthopox virus infection but not diagnostic for smallpox.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Spotted fever group rickettsioses 10250	Spotted fever group rickettsioses (SFGR) are a group of tick-borne infections caused by some members of the genus *Rickettsia*. The most well-known SFGR is Rocky Mountain spotted fever (RMSF), an illness caused by *Rickettsia rickettsii*. Disease onset for RMSF averages one week following a tick bite. Illness is characterized by acute onset of fever and can be accompanied by headache, malaise, myalgia, nausea/vomiting, or neurologic signs; a macular or maculopapular rash may appear 4-7 days following onset in many (~80%) patients, often present on the palms and soles. RMSF can be fatal in as many as 20% of untreated cases, and severe fulminant disease can occur. In addition to RMSF, human illness associated with other spotted fever group (SFG) *Rickettsia* species, including infection with *R. parkeri*, has also been reported. In these patients, clinical presentation appears similar to, but can be milder than, RMSF; the presence of an eschar at the site of tick attachment has been reported for some other SFGR. *Clinical evidence:* Any reported acute onset of fever and one or more of the following: rash, eschar, headache, myalgia, anemia, thrombocytopenia, or any hepatic transaminase elevation. ***Confirmed:*** Clinically compatible case (meets clinical evidence criteria) that is laboratory confirmed ***Probable:*** Clinically compatible case (meets clinical evidence criteria) with serological evidence of elevated IgG or IgM antibody reactive with *R. rickettsii* or other spotted fever group antigen* by IFA (serologic titer of ≥1:128), Note: Because antibodies for rickettsial diseases can be cross-reactive, specimens should be tested against a panel* of *Rickettsia* antigens, including, at a minimum, *R. rickettsia* and *R. typhi*, to differentiate between SFG and non-SFG *Rickettsia* spp. In addition, according to CDC, rickettsial IgM tests lack specificity (resulting in false positives); thus, IgG titers are considered to be much more reliable. ** Specimens can be forwarded to the DSHS Serology lab for rickettsial panel testing.* See *Rickettsia* Classification	▪ Serological evidence of an elevation (four-fold change) in IgG-specific antibody titer reactive with *R. rickettsii* or other SFG** antigen between paired serum specimens (one taken in the first week of illness and a second 2-4 weeks later), as measured by a standardized IFA, **OR** ▪ Detection of *R. rickettsii* or other SFG** DNA in a clinical specimen by polymerase chain reaction (PCR) assay, **OR** ▪ Demonstration of SFG** antigen in a biopsy/autopsy specimen by IHC, **OR** ▪ Isolation of *R. rickettsii* or other SFG *Rickettsia*** from a clinical specimen in cell culture **Spotted fever group *Rickettsia* included in SFGR are *R. aeschlimannii, R. africae, R. australis, R. conorii, R. heilongjiangensis, R. helvetica, R. honei, R. japonica, R. marmionii, R. massiliae, R. parkeri, R. rickettsii, R. sibirica, R. sibirica mongolotimonae,* and *R. slovaca*. Spotted fever group species excluded from this condition are *R. felis* and *R. akari*.
Staphylococcus aureus, methicillin-or oxacillin-resistant (MRSA) - [See MRSA **outbreaks only**] 11661	See MRSA – **outbreaks only**	

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Streptococcal toxic shock syndrome **(Oubreaks only)** 11700	Streptococcal toxic-shock syndrome (STSS) is a severe illness associated with invasive or noninvasive group A streptococcal (*Streptococcus pyogenes*) infection. STSS may occur with infection at any site but most often occurs in association with infection of a cutaneous lesion. Signs of toxicity and a rapidly progressive clinical course are characteristic, and the case fatality rate may exceed 50%. An illness with the following clinical manifestations: 1) Hypotension defined by a systolic blood pressure less than or equal to 90 mm Hg for adults or less than the fifth percentile by age for children aged less than 16 years, **AND** 2) Multi-organ involvement characterized by two or more of the following: ▪ *Renal Impairment*: Creatinine greater than or equal to 2 mg/dL (greater than or equal to 177 µmol/L) for adults or greater than or equal to twice the upper limit of normal for age. In patients with preexisting renal disease, a greater than twofold elevation over the baseline level. ▪ *Coagulopathy*: Platelets less than or equal to 100,000/mm^3 (less than or equal to 100 x 10^6/L) or disseminated intravascular coagulation, defined by prolonged clotting times, low fibrinogen level, and the presence of fibrin degradation products ▪ *Liver Involvement*: Alanine aminotransferase, aspartate aminotransferase, or total bilirubin levels greater than or equal to twice the upper limit of normal for the patient's age. In patients with preexisting liver disease, a greater than twofold increase over the baseline level. ▪ *Acute Respiratory Distress Syndrome*: Defined by acute onset of diffuse pulmonary infiltrates and hypoxemia in the absence of cardiac failure or by evidence of diffuse capillary leak manifested by acute onset of generalized edema, or pleural or peritoneal effusions with hypoalbuminemia ▪ A generalized erythematous macular rash that may desquamate ▪ Soft-tissue necrosis, including necrotizing fasciitis or myositis, or gangrene *Confirmed:* A case that meets the clinical case definition and is laboratory confirmed with isolation of group A *Streptococcus* from a normally sterile site (e.g., blood or cerebrospinal fluid or, less commonly, joint, pleural, or pericardial fluid) *Probable:* A case that meets the clinical case definition in the absence of another identified etiology for the illness and with isolation of group A *Streptococcus* from a non-sterile site Note: Enter all confirmed and probable STSS cases as confirmed group A *Streptococcus*, invasive disease, code 11710. See also *Streptococcus*, invasive group A (GAS) disease (*Streptococcus pyogenes*), code 11710.	▪ Isolation of group A *Streptococcus (S. pyogenes)* (GAS)

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
***Streptococcus*, invasive group A (GAS) disease (*Streptococcus pyogenes*)** 11710	Invasive group A streptococcal infections may manifest as any of several clinical syndromes, including pneumonia, bacteremia in association with cutaneous infection (e.g., cellulitis, erysipelas, or infection of a surgical or nonsurgical wound), deep soft-tissue infection (e.g., myositis or necrotizing fasciitis), meningitis, peritonitis, osteomyelitis, septic arthritis, postpartum sepsis (i.e., puerperal fever), neonatal sepsis, and non-focal bacteremia. ***Confirmed***: A case that is laboratory confirmed Note: A person with group A *Streptococcus* isolated 2 or more times within a 6-month timeframe (regardless of calendar year) should only be counted once as a case unless additional information is available to indicate a distinct infection, e.g., different serotype, etc.	▪ Isolation of group A *Streptococcus* (*Streptococcus pyogenes*) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid), **OR** ▪ Isolation of group A *Streptococcus* (*Streptococcus pyogenes*) by culture from any site when Toxic Shock Syndrome or Necrotizing Fasciitis is present See Normally Sterile Site and *Streptococcus* Classification
***Streptococcus*, invasive group B (GBS) disease (*Streptococcus agalactiae*)** 11715	Group B *Streptococcus* is the most common cause of life-threatening infections, sepsis (blood infection), and meningitis (infection of the fluid and lining around the brain) in newborns. In infants, group B *Streptococcus* is characterized by sepsis, respiratory distress, apnea, shock, pneumonia and meningitis. GBS is acquired in utero or during delivery and occurs more frequently in low birth weight infants. Group B *Streptococcus*, invasive disease can present in a number of different ways in adults. The most common problems in adults are: bloodstream infections, pneumonia, skin and soft-tissue infections, and bone and joint infections. Rarely, group B *Streptococcus* can cause meningitis in adults. ***Confirmed:*** A case that is laboratory confirmed Note: Only count one GBS case for a mother/baby pair unless both mother and baby have GBS isolated/cultured from a sterile site (for this consideration, placenta and amniotic fluid are not sterile sites). In the event of a stillbirth or fetal death, if GBS is isolated from the placenta or amniotic fluid and there is no GBS culture available from a sterile site, count once as a maternal case. Note: A person with group B *Streptococcus* isolated 2 or more times within a 6-month timeframe (regardless of calendar year) should only be counted once as a case unless additional information is available indicating a distinct infection, e.g., different serotype, etc.	▪ Isolation of group B *Streptococcus* (*Streptococcus agalactiae*) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid), **OR** ▪ Isolation of group B *Streptococcus* (*Streptococcus agalactiae*) by culture from placenta or amniotic fluid from an intact amnion See Normally Sterile Site and *Streptococcus* Classification

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
***Streptococcus pneumoniae*, invasive disease (IPD)** 11723* *Note: Code 11717 was used prior to 2010 and for 2010 there are cases under both codes.	*Streptococcus pneumoniae* bacteria cause many clinical syndromes, depending on the site of infection (e.g., acute otitis media, pneumonia, bacteremia, or meningitis). Only invasive *Streptococcus pneumoniae* is reportable. ***Confirmed**:* A case that is laboratory confirmed ***Probable**:* A case with detection of *S. pneumoniae* from a normally sterile site using a culture independent diagnostic test (CIDT) (e.g., PCR, antigen based tests) without isolation of the bacteria Note: Positive lab results from a specimen collected more than 30 days after the collection date of a prior case should be counted as a new case. If specimen collection occurred within 30 days of the collection date of a prior case, it should not be counted as a new case.	▪ Isolation of *S. pneumoniae* from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid) See Normally Sterile Site and *Streptococcus* Classification
***Taenia solium* and undifferentiated *Taenia* infection** 80680	Taeniasis is an intestinal infection with the adult stage of the pork (*T. solium*) or beef (*T. saginata*) tapeworms. Clinical manifestations of infection with the adult worm, if present, are variable and can include nervousness, insomnia, anorexia, weight loss, abdominal pain, and digestive disturbances; many infections are asymptomatic. Taeniasis is usually a nonfatal infection, but the larval stage of *T. solium* can cause fatal cysticercosis. ***Confirmed:*** Laboratory identification of the presence of *T. solium* proglottids, eggs, or antigens in a clinical specimen ***Probable:*** Laboratory identification of the presence of undifferentiated *Taenia* spp. tapeworm proglottids or eggs in a clinical specimen See Cysticercosis	▪ Infection with an adult tapeworm is diagnosed by identification of proglottids (segments), eggs, or antigens of the worm in the feces or on anal swabs Note: Eggs of *T. solium* and *T. saginata* cannot be differentiated morphologically. Specific diagnosis is based on the morphology of the scolex (head) and/or gravid proglottids.
Tetanus 10210	Acute onset of hypertonia and/or painful muscular contractions (usually of the muscles of the jaw and neck) and generalized muscle spasms without other apparent medical cause ***Probable*:** A clinically compatible case, as reported by a health-care professional	Not applicable

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Trichinellosis (Trichinosis) 10270	A disease caused by ingestion of *Trichinella* larvae. The disease has variable clinical manifestations. Common signs and symptoms among include eosinophilia, fever, myalgia, and periorbital edema. ***Confirmed:*** A clinically compatible case that is laboratory confirmed in the patient ***Probable:*** A clinically compatible illness in a person who shared an epidemiologically implicated meal or ate an epidemiologically implicated meat product, **OR** A clinically compatible illness in a person who consumed a meat product in which the parasite was demonstrated *Suspect:* Instances where there is no clinically compatible illness in a person who shared an implicated meal or ate an implicated meat product, has no known prior history of *Trichinella* infection, and has a positive serologic test for trichinellosis Note**:** Epidemiologically implicated meals or meat products are defined as a meal/meat product that was consumed by a person who subsequently developed a clinically compatible illness that was laboratory confirmed. Subsequent cases of trichinellosis experienced by one individual should only be counted if there is a clinically-compatible illness AND a compatible exposure.	▪ Demonstration of *Trichinella* spp. larvae in tissue obtained by muscle biopsy, **OR** ▪ Positive serologic test for *Trichinella* spp.
Trichuriasis 80790	Trichuriasis is a soil-transmitted helminth. People with light infections usually have no symptoms or only peripheral blood eosinophilia. People with heavy symptoms can experience frequent, painful passage of stool that contains a mixture of mucus, water, and blood. Rectal prolapse can also occur. Children with heavy infections can become severely anemic and growth-retarded. ***Confirmed:*** A case that is laboratory confirmed	▪ Microscopic identification of *Trichuria* eggs or worms in feces, **OR** ▪ Observation during sigmoidoscopy, proctoscopy, or colonoscopy of *Trichuria* worms characterized by a threadlike form with an attenuated, whip-like end, **OR** ▪ Identification of worms on prolapsed rectal mucosa
Tuberculosis 10220	Tuberculosis (TB) is an infectious airborne disease caused by *Mycobacterium tuberculosis* usually affecting the lungs, but can attack almost any part of the body. It is not a highly communicable disease and usually requires prolonged exposure to someone with infectious TB disease. For purposes of surveillance, a case of TB is defined on the basis of laboratory or clinical evidence of active disease due to *M. tuberculosis* complex.* Note: All isolates reported as *M. tuberculosis* complex should be further evaluated to determine if they are *M. bovis* or *M. bovis* (BCG).	• Isolation of *M. tuberculosis* complex from a clinical specimen, **OR** • Demonstration of *M. tuberculosis* complex from a clinical specimen by nucleic acid amplification test, **OR**

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Tuberculosis (Ctd.)	***Confirmed***: a case that meets the clinical case definition or is laboratory confirmed ***Verified***: a case that is verified by an authorized TB surveillance designee, on the basis of laboratory or clinical evidence of active disease due to *M. tuberculosis* complex and meets the criteria for a Texas resident ***Counted***: a case that is confirmed, verified and reported to the CDC for inclusion in statistics for annual incidence in Texas and national morbidity reports ***Multidrug-resistant TB (MDR)*:** resistant to at least isoniazid and rifampin; MDR TB is more difficult to treat than drug-susceptible TB ***Extensively drug resistant TB (XDR)***: the occurrence of TB whose *M. tuberculosis* isolates are resistant to isoniazid and rifampin, plus resistant to any fluoroquinolone and at least one of three injectable second-line drugs (i.e., amikacin, kanamycin, or capreomycin) Recurrence: A patient who has ▪ a negative culture result while receiving anti-TB therapy, but at some point after therapy is completed, either the culture result becomes positive for *M. tuberculosis* or the patient has clinical or radiologic deterioration that is consistent with TB disease, **OR** ▪ a negative smear and culture result (e.g., clinical case) at diagnosis and while receiving anti-TB therapy, but at some point after therapy is completed, either the patient has a culture result that is positive for *M. tuberculosis* or has clinical or radiologic deterioration that is consistent with TB disease. Note: A case should not be counted twice within any consecutive 12-month period. However, a case occurring in a patient who had previously had verified TB disease should be reported and counted again if more than 12 months have elapsed since the patient completed therapy. A case should also be reported and counted again if the patient was lost to supervision for greater than 12 months and TB disease can be verified again. **Clinical Case Definition** A case that meets all of the following criteria: ▪ A positive tuberculin skin test result or positive interferon gamma release assay for *M. tuberculosis* ▪ Other signs and symptoms compatible with TB (e.g., abnormal chest radiograph, abnormal chest computerized tomography scan or other chest imaging study, or clinical evidence of current disease) ▪ Treatment with two or more anti-TB medications ▪ A completed diagnostic evaluation	• Demonstration of acid-fast bacilli in a clinical specimen when a culture has not been or cannot be obtained. Note: Mycobacterial diseases other than those caused by *M. tuberculosis* complex should not be counted in tuberculosis morbidity statistics unless there is concurrent tuberculosis. *Because most laboratories use tests that do not routinely distinguish *Mycobacterium tuberculosis* from very closely related species, these laboratories report culture results as being positive or negative for "*Mycobacterium tuberculosis* complex." Although in almost all cases of human disease isolates in the *M. tuberculosis* complex are, in fact, *M. tuberculosis*, other species are possible. Other species in the *Mycobacterium tuberculosis* complex include *M. bovis*, *M. africanum*, *M. microti*, *M. canetii*, *M. caprae*, and *M. pinnipedii*. Although most of these other species are newly described, their inclusion in *M. tuberculosis* complex should not impact public health laboratories or programs, because only a few laboratories identify to the species level. These species are almost identical in DNA homology studies. In terms of their ability to cause clinical disease or be transmissible from person to person, these species behave like *M. tuberculosis*; therefore, disease caused by any of the organisms should be reported as TB. The only exception is the BCG strain of *M. bovis*, which may be isolated from persons who have received the vaccine for protection against TB or as cancer immunotherapy; disease caused by the BCG strain of *M. bovis* should not be reported as lab confirmed TB.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
	Clinical Case by Provider Diagnosis A case that meets at least one of the following criteria: ▪ A negative tuberculin skin test result or negative interferon gamma release assay for *M. tuberculosis* and considerable improvement on an abnormal chest radiograph after started on at least two anti-TB medications, **OR** ▪ Considerable clinical improvement based on symptoms from onset after started on at least two anti-TB medications, **OR** ▪ A child that has had recent contact to an active case, **OR** ▪ Active TB disease reported at death, based on autopsy or medical examiner report, **OR** ▪ Active TB disease is confirmed on the basis of a TB expert consult. Note: The clinical case definition by provider diagnosis is not a component of the current CDC published case definition; however, CDC's national morbidity reports have traditionally included all TB cases that have been verified by an authorized TB surveillance designee, without a requirement that cases meet the published case definition. Suspected Case of TB A case where there is clinical suspicion of active TB disease and the provider intends for the client to be placed in isolation or on 4-drug therapy and a complete evaluation has been performed, pending final laboratory results. TB disease should be suspected in clients who have the following symptoms ▪ Unexplained weight loss ▪ Loss of appetite ▪ Night sweats ▪ Fever ▪ Fatigue ▪ Shortness of breath If TB disease is in the lungs, symptoms may include ▪ Coughing for > 3 weeks ▪ Hemoptysis ▪ Chest pain If TB disease in in other parts of the body, symptoms will depend on the area affected. Case of TB Infection ▪ TB infection is determined by a positive result from an Interferon-Gamma Release Assay (IGRA) test such as T-Spot or QuantiFERON – TB GOLD In-Tube (QFT-G) or tuberculin skin test (TST), a normal chest radiograph with no presenting symptoms of TB disease. Report clients where treatment for TB infection is initiated based on provider judgment,	Note: As required by *TAC*, all *Mycobacterium tuberculosis* isolates must be submitted to the DSHS laboratory. Interferon-Gamma Release Assay Tuberculin Skin Test

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
	regardless of the test result, e.g., clients who may be at risk for developing TB disease but may have a false negative TB test, such as children or immunocompromised clients.	
Tularemia 10230	The signs and symptoms of tularemia vary depending on how the bacteria enter the body. Illness ranges from mild to life-threatening. All forms are accompanied by fever, which can be as high as 104 °F. Clinical diagnosis is supported by evidence or history of a tick or deerfly bite, exposure to tissues of a mammalian host of *Francisella tularensis*, or exposure to potentially contaminated water. Illness is characterized by several distinct forms, including the following: ▪ Ulceroglandular: cutaneous ulcer with regional lymphadenopathy ▪ Glandular: regional lymphadenopathy with no ulcer ▪ Oculoglandular: conjunctivitis with preauricular lymphadenopathy ▪ Oropharyngeal: stomatitis or pharyngitis or tonsillitis and cervical lymphadenopathy ▪ Pneumonic: primary pleuropulmonary disease ▪ Typhoidal: febrile illness without early localizing signs and symptoms ***Confirmed:*** A clinically compatible case with confirmatory laboratory results ***Probable*:** A clinically compatible case with laboratory results indicative of presumptive infection: ▪ Elevated serum antibody titer(s) *to F. tularensis* antigen (without documented fourfold or greater change) in a patient with no history of tularemia vaccination, **OR** ▪ Detection of *F. tularensis* in a clinical or autopsy specimen by fluorescent assay **OR** ▪ Detection of *F. tularensis* in a clinical or autopsy specimen by PCR	▪ Isolation of *F. tularensis* in a clinical or autopsy specimen, **OR** ▪ Four-fold or greater change in serum antibody titer to *F. tularensis* antigen between acute and convalescent specimens. Note: As required by *TAC*, all *F. tularensis* isolates must be submitted to the DSHS laboratory.
Typhoid fever (caused by ***Salmonella* Typhi**) 10240	An illness caused by *Salmonella* Typhi that is often characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation or diarrhea, and nonproductive cough. However, many mild and atypical infections occur. Carriage of *S.* Typhi can be prolonged. ***Confirmed:*** A clinically compatible case that is laboratory confirmed ***Probable:*** A clinically compatible case that is epidemiologically linked to a confirmed case in an outbreak Note: a case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection	▪ Isolation of *S.* Typhi from blood, stool, or other clinical specimen See Salmonellosis for other *Salmonella* isolates

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Typhus, flea-borne (endemic, murine) 10260	Flea-borne typhus is a rickettsial disease whose course resembles that of louse-borne typhus, but is generally milder. The onset is variable, often sudden and marked by headache, chills, fatigue, fever, and general body aches. A macular rash may appear on the 5th or 6th day, initially on the upper trunk, followed by spread to the entire body, but usually not to the face, palms or soles. Absence of louse infestation, geographic and seasonal distribution, and sporadic occurrence of the disease help to differentiate it from louse-borne typhus. *Clinical evidence:* Any reported acute onset of fever and one or more of the following: headache, myalgia, anorexia, rash, nausea/vomiting, thrombocytopenia, or any hepatic transaminase elevation. ***Confirmed**:* Clinically compatible case that is laboratory confirmed ***Probable**:* Clinically compatible case with supportive laboratory results: ▪ IFA serologic titer of ≥1:128, **OR** ▪ A single CF of ≥16, **OR** ▪ Other supportive serology (single titer ≥1:128 by an LA, IHA, or MA test) Note: Because antibodies for rickettsial diseases can be cross-reactive, specimens should be tested against a panel* of *Rickettsia* antigens, including, at a minimum, *R. rickettsia* and *R. typhi*, to differentiate between SFG and non-SFG *Rickettsia* spp. In addition, according to CDC, rickettsial IgM tests lack specificity (resulting in false positives); thus, IgG titers are considered to be much more reliable. ** Specimens can be forwarded to the DSHS Serology lab for rickettsial panel testing.* See *Rickettsia* Classification	▪ Serological evidence of an elevation (four-fold change) in IgG-specific antibody titer reactive with *R. typhi* or *R. felis* by IFA, CF, LA, MA, or IHA test in acute and convalescent specimens ideally taken at least 3 weeks apart, **OR** ▪ Positive PCR assay to *R. typhi* or *R. felis*, **OR** ▪ Demonstration of positive *R. typhi* or *R. felis* IFA of skin lesion (biopsy) or organ tissue (autopsy), **OR** ▪ Isolation of *R. typhi* or *R. felis* from clinical specimen

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Typhus fever (epidemic, louse-borne) 10265	A rickettsial disease caused by *Rickettsia prowazekii* and transmitted by the human body louse. The illness may have a variable onset which is often sudden and marked by headache, chills, prostration, fever, and general body aches. A macular rash may appear on the 5th or 6th day, initially on the upper trunk, followed by spread to the entire body, but usually not to the face, palms or soles. The rash is often difficult to observe on dark skin. Toxemia is usually pronounced, and the disease terminates by rapid defervescence after about 2 weeks of fever. ***Confirmed**:* Clinically compatible case that is laboratory confirmed ***Probable**:* Clinically compatible case with supportive laboratory results: ▪ IFA serologic titer of ≥1:128, **OR** ▪ A single CF of >16, **OR** ▪ Other supportive serology (single titer ≥1:128by an LA, IHA, or MA test) See *Rickettsia* Classification	▪ Four-fold or greater rise in antibody titer to *R. prowazekii* antigen by IFA, CF, LA, MA, or IHA test in acute and convalescent specimens ideally taken at least 3 weeks apart, **OR** ▪ Positive PCR assay to *R. prowazekii*, **OR** ▪ Demonstration of positive *R. prowazekii* IFA of skin lesion (biopsy) or organ tissue (autopsy), **OR** ▪ Isolation of *R. typhi* or *R. felis* from clinical specimen Note: The IFA test is most commonly used for laboratory confirmation, but it does not discriminate between louse-borne and flea-borne typhus unless the sera are differentially absorbed with the respective rickettsial antigen prior to testing.
Vancomycin-intermediate *Staphylococcus aureus* (VISA) 11663	*Staphylococcus aureus* can produce a variety of syndromes with clinical manifestations including skin and soft tissue lesions, empyema, pyarthrosis, bloodstream infection, pneumonia, osteomyelitis, septic arthritis, endocarditis, sepsis, and meningitis. ***Confirmed:*** A vancomycin- intermediate *Staphylococcus aureus* from any body site/source that is laboratory confirmed. (MIC: 4-8 µg/ml) Note: The DSHS laboratory uses the Etest for confirmation of resistance. Etest generates MIC values from a continuous scale and can give results in-between conventional two-fold dilutions. According to manufacturer's protocol, a value which falls between standard two-fold dilutions is rounded up to the next upper two-fold value before categorization so that a MIC of 3µg/ml is reported as intermediate resistance.	***VISA confirmed*** ▪ Isolation of *Staphylococcus aureus* from any body site, **AND** ▪ Intermediate-level resistance (MIC: 4-8 µg/ml) of the *Staphylococcus aureus* isolate to vancomycin, detected and defined according to CLSI approved standards and recommendations. Note: As required by *TAC*, all *Staphylococcus aureus* isolates with a vancomycin MIC greater than 2 µg/mL must be submitted to the DSHS laboratory. http://www.cdc.gov/HAI/settings/lab/visa_vrsa_lab_detection.html

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Vancomycin-resistant *Staphylococcus aureus* (VRSA) 11665	*Staphylococcus aureus* can produce a variety of syndromes with clinical manifestations including skin and soft tissue lesions, empyema, pyarthrosis, bloodstream infection, pneumonia, osteomyelitis, septic arthritis, endocarditis, sepsis, and meningitis. ***Confirmed:*** A vancomycin-resistant *Staphylococcus aureus* from any body site/source that is laboratory confirmed. (MIC: ≥ 16 µg/ml)	***VRSA confirmed*** ▪ Isolation of *Staphylococcus aureus* from any body site, **AND** ▪ High-level resistance of the *Staphylococcus aureus* isolate to vancomycin (MIC: ≥16 µg/ml), detected and defined according to CLSI approved standards and recommendations. Note: As required by *TAC*, all *Staphylococcus aureus* isolates with a vancomycin MIC greater than 2 µg/mL must be submitted to the DSHS laboratory. http://www.cdc.gov/HAI/settings/lab/visa_vrsa_lab_detection.html
Varicella (chickenpox) 10030	An illness with acute onset of diffuse (generalized) maculopapulovesicular rash without other apparent cause. In vaccinated persons who develop varicella more than 42 days after vaccination (breakthrough disease), the disease is almost always mild with fewer than 50 skin lesions and shorter duration of illness. The rash can also be atypical in appearance (maculopapular with few or no vesicles). ***Confirmed:*** A case that meets the clinical case definition **AND** is either laboratory confirmed, **OR** epidemiologically linked to another probable or confirmed case ***Probable*:** A case that meets the clinical case definition **without** epidemiologic linkage or laboratory confirmation Note: Two or more patients that meet clinical case definition and are epidemiologically linked to one another meet the confirmed case definition.	▪ Isolation of varicella-zoster virus (VZV) from a clinical specimen, **OR** ▪ Varicella antigen detected by direct fluorescent antibody (DFA), **OR** ▪ Varicella-specific nucleic acid detected by polymerase chain reaction (PCR), **OR** ▪ Significant rise in serum varicella immunolglobulin G (IgG) antibody level by any standard serologic assay

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Vibrio parahaemolyticus 11541	An intestinal disorder characterized by watery diarrhea and abdominal cramps in the majority of cases, and sometimes with nausea, vomiting, fever and headache. Occasionally, a dysentery-like illness is observed with bloody or mucoid stools, high fever and high WBC count. Typically, it is a disease of moderate severity lasting 1-7 days; systemic infection and death rarely occur. ***Confirmed:*** A case that meets the laboratory criteria for diagnosis ***Probable*:** ▪ A case with *Vibrio parahaemolyticus* detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR** ▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis Note: A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species	▪ Isolation of *Vibrio parahaemolyticus* from a clinical specimen Note: As required by *TAC* all *Vibrio* species isolates must be submitted to the DSHS laboratory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Vibrio vulnificus 11542	Infection with *Vibrio vulnificus* produces septicemia in persons with chronic liver disease, chronic alcoholism or hemochromatosis, or those who are immunosuppressed. The disease appears 12 hours to 3 days after eating raw or undercooked seafood, especially oysters. One third of patients are in shock when they present for care or develop hypotension within 12 hours after hospital admission. Three quarters of patients have distinctive bullous skin lesions; thrombocytopenia is common and there is often evidence of disseminated intravascular coagulation. *V. vulnificus* can also infect wounds sustained in coastal or estuarine waters; wounds range from mild, self-limited lesions to rapidly progressive cellulitis and myositis that can mimic clostridial myonecrosis in the rapidity of spread and destructiveness. ***Confirmed:*** A case that meets the laboratory criteria for diagnosis ***Probable*:** ▪ A case with *Vibrio vulnificus* detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR** ▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis Note: A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species	▪ Isolation of *Vibrio vulnificus* from a clinical specimen Note: As required by *TAC* all *Vibrio* species isolates must be submitted to the DSHS laboratory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Vibriosis, other or unspecified 11540	An infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. Asymptomatic infections can occur, and the organism can cause extraintestinal infections ***Confirmed:*** A case that meets the laboratory criteria for diagnosis ***Probable*:** ▪ A case with a species of the family *Vibrionaceae* (other than *Vibrio parahaemolyticus*, *Vibrio vulnificus*, and toxigenic *Vibrio cholerae* O1 or O139) detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR** ▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis Note: A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species	▪ Isolation of a species of the family *Vibrionaceae* (other than *Vibrio parahaemolyticus*, *Vibrio vulnificus*, and toxigenic *Vibrio cholerae*) from a clinical specimen. Genera in the family *Vibrionaceae* currently include *Aliivibrio*, *Allomonas*, *Catenococcus*, *Enterovibrio*, *Grimontia*, *Listonella*, *Photobacterium*, *Salinivibrio*, and *Vibrio*. Note: As required by *TAC* all *Vibrio* species isolates must be submitted to the DSHS laboratory.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Viral hemorrhagic fever (VHF) Non-Ebola **Crimean-congo HF** 11640 **Guanarito HF** 11648 **Junin (Argentine) HF** 11638 **Lassa fever** 11632 **Lujo HF** 11644 **Machupo (Bolivian) HF** 11637 **Marburg fever** 11631 **Sabia (Brazilian) HF** 11639	An illness with acute onset of fever, AND one or more of the following clinical findings: severe headache, muscle pain, erythematous maculopapular rash on the trunk with flaking or shedding of the skin 3–4 days after rash onset, vomiting, diarrhea, abdominal pain, bleeding or bruising not related to injury, or thrombocytopenia. For arenaviruses (Guanarito, Junin, Lassa, Lujo, Machupo, Sabia) pharyngitis, retrosternal chest pain, or proteinuria may also occur. ***Confirmed:*** A clinically compatible illness that is laboratory confirmed *Suspect:* A clinically compatible illness that meets one or more of the following exposures within 21-days before onset of symptoms: ▪ Contact with blood or other body fluids of a patient with VHF, **OR** ▪ Residence in—or travel to—an VHF endemic area, **OR** ▪ Work in a laboratory that handles VHF specimens, **OR** ▪ Work in a laboratory that handles primates, bats, or rodents from endemic areas, **OR** ▪ Exposure to semen or breast-milk of an individual who had VHF within the last 9 months.	▪ Detection of VHF* viral antigens in blood by enzyme-linked immunosorbent assay (ELISA) antigen detection, **OR** ▪ Isolation of VHF virus in cell culture for blood or tissues, **OR** ▪ Detection of VHF viral genes using reverse transcriptase with polymerase chain reaction amplification (RT-PCR) from blood or tissues, **OR** ▪ Detection of VHF viral antigens in tissues by IHC *Viral hemmorhagic fever (VHF) agents include: ▪ Crimean-Congo hemorrhagic fever viruses ▪ Ebola virus (see Ebola case definition) ▪ Lassa virus ▪ Lujo virus ▪ Marburg virus ▪ New world arenaviruses (Guanarito, Machupo, Junin, Sabia viruses)
West Nile neuroinvasive disease (WNND)	See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis)	See Lab Confirmation Tests for Arbovirus, Neuroinvasive (Encephalitis/meningitis)
West Nile fever	See Case Definition/Case Classification for Arbovirus, Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus, Non-neuroinvasive
Western equine encephalitis (WEE)	See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus, Neuroinvasive and Non-neuroinvasive

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Yellow fever 10660	A mosquito-borne viral illness characterized by acute onset and constitutional symptoms followed by a brief remission and a recurrence of illness, which may include fever, hepatitis, albuminuria, and, in some instances, renal failure, shock, and generalized hemorrhages. ***Confirmed:*** A clinically compatible case that is laboratory confirmed ***Probable*:** A clinically compatible case with supportive serology: ▪ Stable elevated antibody titer, e.g.: ▪ CF ≥ 32, **OR** ▪ IFA ≥ 1:256, **OR** ▪ HI ≥ 320, **OR** ▪ PRNT ≥ 160, **OR** ▪ Positive serologic result by IgM-capture enzyme immunoassay. Cross-reactive serologic reactions to other flaviviruses must be excluded, and the patient must not have a history of yellow fever vaccination.	▪ Four-fold or greater rise in yellow fever antibody titer in a patient who has no history of recent yellow fever vaccination and cross-reactions to other flaviviruses have been excluded, **OR** ▪ Demonstration of yellow fever virus, antigen, or genome in tissue, blood, or other body fluid
Yersiniosis 11565	An illness characterized by diarrhea (sometimes bloody), fever, and abdominal pain; an appendicitis-like syndrome and systemic infections can occur ***Confirmed:*** A case that meets the laboratory criteria for diagnosis ***Probable:*** A clinically compatible case that is epidemiologically linked to a confirmed case Note: a case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection	▪ Isolation of *Yersinia* (except *Y. pestis*)* in a clinical specimen As required by *TAC* all *Yersinia pestis* isolates must be submitted to the DSHS laboratory. For *Yersinia pestis* isolates, see Plague

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests

Zika disease, non-congenital
50223
	A mosquito-borne viral illness transmitted by *Aedes* mosquitoes, including *Ae. aegypti* and *Ae. albopictus*. Infection is asymptomatic in up to 80% of cases and clinical illness, when it occurs, is typically mild and lasts for several days to a week. Transmission of Zika virus (ZIKV) *in utero* has been associated with severe birth outcomes, including microcephaly and fetal loss.
	
	Clinical evidence: An individual with one or more of the following not explained by another etiology:
	▪ Clinically compatible illness that includes:
	  ▪ acute onset of fever (measured or reported), or
	  ▪ rash, or
	  ▪ arthralgia, or
	  ▪ conjunctivitis
	▪ Complication of pregnancy
	  ▪ fetal loss, or
	  ▪ fetus or neonate with congenital microcephaly, congenital intracranial calcification, other structural brain or eye abnormalities, or other congenital central nervous system-related abnormalities including defects such as clubfoot or multiple joint contractures
	▪ Guillain-Barrė syndrome or other neurologic manifestations
	
	Confirmed: A clinically compatible individual with laboratory confirmation.
	
	Probable*:* A clinically compatible individual with an epidemiologic link* **AND** laboratory evidence of recent ZIKV or flavivirus infection by:
	▪ Positive ZIKV IgM antibody test of serum or CSF with:
	  ▪ positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; **OR**
	  ▪ negative dengue virus IgM antibody test and no neutralizing antibody test performed
	
	*Epidemiologic link defined as one or more of the following:
	▪ Resides in or recent travel to an area with known ZIKV transmission, **OR**
	▪ Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; **OR**
	▪ Receipt of blood or blood products within 30 days of symptom onset; **OR**
	▪ Organ or tissue transplant recipient within 30 days of symptom onset; **OR**
	▪ Association in time or place with a confirmed or probable case; **OR**
	▪ Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission
		▪ Detection of ZIKV by culture, viral antigen or viral RNA in serum, CSF, tissue, or other specimen (i.e. amniotic fluid, urine, semen, saliva)
		OR
		▪ Positive ZIKV IgM antibody test in serum or CSF with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests

Zika disease, congenital
50224
	Clinical evidence: A neonate with one or more of the following not explained by another etiology:
	▪ congenital microcephaly
	▪ congenital intracranial calcification
	▪ other structural brain or eye abnormalities
	▪ other congenital central nervous system-related abnormalities including defects such as clubfoot or multiple joint contractures
	
	***Confirmed*:** A clinically compatible neonate with laboratory confirmation.
	
	***Probable*:** A clinically compatible neonate whose mother has an epidemiologic link* **OR** meets laboratory criteria for recent ZIKV or flavivirus infection; **AND** the neonate has laboratory evidence of recent ZIKV or flavivirus infection by:
	▪ Positive ZIKV IgM antibody test of serum or CSF within 2 days of birth**; **AND**
	  ▪ positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; **OR**
	  ▪ negative dengue virus IgM antibody test and no neutralizing antibody test performed
	
	*Epidemiologic link defined as one or more of the following:
	▪ Resides in or recent travel to an area with known ZIKV transmission, **OR**
	▪ Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; **OR**
	▪ Receipt of blood or blood products within 30 days of symptom onset; **OR**
	▪ Organ or tissue transplant recipient within 30 days of symptom onset; **OR**
	▪ Association in time or place with a confirmed or probable case; **OR**
	▪ Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission
	
	**The requirement that samples be collected within 2 days only applies to areas with ongoing local Zika transmission.
		▪ Detection of ZIKV by culture, viral antigen or viral RNA in fetal tissue, umbilical cord blood, or amniotic fluid
		OR
		▪ Detection of ZIKV by culture, viral antigen or viral RNA in neonatal serum, CSF, or urine collected within 2 days of birth**
		OR
		▪ Positive ZIKV IgM antibody test of umbilical cord blood, neonatal serum or CSF collected within 2 days of birth** with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Zika infection, non-congenital 50221	***Confirmed*:** An individual who does not meet clinical criteria for non-congenital Zika disease, BUT who meets confirmatory laboratory criteria. ***Probable*:** An individual who does not meet clinical criteria for non-congenital Zika disease, BUT who has an epidemiologic link* **AND** laboratory evidence of recent ZIKV or flavivirus infection by: ▪ Positive ZIKV IgM antibody test of serum or CSF with: ▪▪ positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; **OR** ▪▪ negative dengue virus IgM antibody test and no neutralizing antibody test performed *Epidemiologic link defined as one or more of the following: ▪ Resides in or recent travel to an area with known ZIKV transmission, **OR** ▪ Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; **OR** ▪ Receipt of blood or blood products within 30 days of symptom onset; **OR** ▪ Organ or tissue transplant recipient within 30 days of symptom onset; **OR** ▪ Association in time or place with a confirmed or probable case; **OR** ▪ Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission	▪ Detection of ZIKV by culture, viral antigen or viral RNA in serum, CSF, tissue, or other specimen (.e.g. amniotic fluid, urine, semen, saliva), **OR** ▪ Positive ZIKV IgM antibody test in serum or CSF with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests

Zika infection, congenital
50222
	***Confirmed*:** A neonate who does not meet clinical criteria for congenital Zika disease, BUT who meets confirmatory laboratory criteria.
	
	***Probable*:** A neonate who does not meet clinical criteria for congenital Zika disease whose mother has an epidemiologic link* **OR** meets laboratory criteria for recent ZIKV or flavivirus infection; **AND** the neonate has laboratory evidence of recent ZIKV or flavivirus infection by:
	▪ Positive ZIKV IgM antibody test of serum or CSF within 2 days of birth**; **AND**
	  ▪ positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; **OR**
	  ▪ negative dengue virus IgM antibody test and no neutralizing antibody test performed
	
	*Epidemiologic link defined as one or more of the following:
	▪ Resides in or recent travel to an area with known ZIKV transmission, **OR**
	▪ Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; **OR**
	▪ Receipt of blood or blood products within 30 days of symptom onset; **OR**
	▪ Organ or tissue transplant recipient within 30 days of symptom onset; **OR**
	▪ Association in time or place with a confirmed or probable case; **OR**
	▪ Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission
	
	**The requirement that samples be collected within 2 days only applies to areas with ongoing local Zika transmission.
		▪ Detection of ZIKV by culture, viral antigen or viral RNA in fetal tissue, umbilical cord blood, or amniotic fluid
		OR
		▪ Detection of ZIKV by culture, viral antigen or viral RNA in neonatal serum, CSF, or urine collected within 2 days of birth**
		OR
		▪ Positive ZIKV IgM antibody test in umbilical cord blood, neonatal serum or CSF collected within 2 days of birth** with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred