



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Infectious Disease Control Unit

Epi Case Criteria Guide, 2011

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Epi Case Criteria Guide, 2010

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Revised December 2010
Publication No. E59-11841

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Introduction

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 that are specified as reportable in Texas in Title 25, Texas Administrative Code, Chapter 97, Subchapter A, Control of Communicable Diseases are in bold type.** You can move about this document by clicking on the item in the table of contents to go to the table and on the condition codes to go back to the table of contents, or by selecting links between table entries.

Definition of Terms

Clinically compatible case: A clinical syndrome 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 may 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. Although other laboratory methods can be used in clinical diagnosis, only those listed are accepted as laboratory confirmation for national and state reporting purposes.

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

Normally sterile sites include:

- blood (obtained aseptically)
- cerebrospinal fluid (CSF)
- pericardial fluid
- pleural fluid (obtained aseptically)
- peritoneal fluid (ascites)
- amniotic fluid (intact amnion)
- bone or bone marrow
- joint fluid (from any specific joint when the joint surface is intact (no abscess or significant break in the skin) including ankle, knee, wrist, elbow, shoulder)
- internal body sites where the specimen is collected during surgery or aspirate from any of the following; brain, heart, liver, spleen, vitreous fluid, kidney, pancreas, lymph node or ovary
- tissue, fluid or other material obtained during surgery

Normally sterile sites do not include:

- anatomical areas of the body that normally harbor either resident or transient flora (bacteria) including mucous membranes (throat, vagina) and skin
- abscesses or localized soft tissue infections

Exceptions:

- Group A *Streptococcus*
 - the recovery of the organism from **any** site (including non-sterile sites) in a case of streptococcal toxic shock syndrome
 - the recovery of the organism from necrotizing fasciitis (extensively damaged tissue, usually muscle obtained during surgery)
- Group B *Streptococcus*
 - the recovery of the organism from the placenta, cord blood or amniotic fluid (ruptured amnion)

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.

Suspected case: A case that is classified as suspected for reporting purposes

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Laboratory Test Abbreviations

CF – Complement fixation
CLSI- Clinical and Laboratory Standards Institute
CSF – Cerebrospinal fluid
EEG - Electroencephalogram
EIA – Enzyme immuno assay
ELISA – Enzyme-linked immunosorbent assay
DFA – Direct fluorescent antibody test
HA – Hemagglutination
HI – Hemagglutination inhibition
ID – Immunodiffusion
IHA – Indirect hemagglutination
IHC – Immunohistochemistry
IFA – Indirect fluorescent antibody test
IgG – Immunoglobulin G
IgM – Immunoglobulin M
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
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
HBsAb or anti-HBs – 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

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Notes

Encephalitis/Meningitis:

- 1) Any infection diagnosed as meningitis with an identified non-viral pathogen (including bacteria, fungi, parasites, etc.) should be entered as [Bacterial meningitis, other](#) with the following exceptions.
[Granulomatous Amebic Meningoencephalitis \(GAE\)](#), [Group A Streptococcus \(*Strep pyogenes*\)](#), [Group B Streptococcus \(*Strep agalactiae*\)](#), [Haemophilus influenzae type b](#), [Listeria monocytogenes](#), [Neisseria meningitidis](#), [Primary Amebic Meningoencephalitis \(PAM\)](#), and [Streptococcus pneumoniae](#).
- 2) Nonarboviral viral meningitis and cases diagnosed as aseptic meningitis (unless the underlying cause is identified as a non-infectious source) should be reported as [Aseptic meningitis](#).
- 3) Any infection diagnosed as encephalitis other than those caused by an arbovirus should be entered as [Encephalitis, Nonarboviral](#) with any associated organism noted in the comment field.
- 4) Isolation of an organism from the CSF is an indicator of encephalitis or meningitis and the case should be entered as noted above.
- 5) Meningitis resulting from cancer, autoimmune response, or drug or chemical exposures should not be entered unless the attending health care provider believes an infection of the meninges or brain is also present.

Encephalitis or meningitis believed to be associated with a vaccination should be entered. Cases should also be reported to the Vaccine Adverse Event Reporting System (VAERS). See <http://www.dshs.state.tx.us/immunize/safety/vaersweb.shtm> for guidance.

Typical Cerebrospinal Fluid Characteristics of Normal and Infected Hosts

CASE	OPENING COLOR	PRESSURE	WBC COUNT	GLUCOSE*	PROTEIN**	GRAM STAIN	CULTURE	INDIA INK	CRYPTOCOCCAL ANTIGEN
Normal Infant	Clear	<180 mm	<10/mm ³	>40 mg/dL	90 mg/dL	Negative	Negative	Negative	Negative
Normal Child or Adult	Clear	<180 mm	0	>40 mg/dL	<40 mg/dL	Negative	Negative	Negative	Negative
Bacterial Meningitis	Cloudy	>200 mm	200-10000/mm ³ (>80% PMN)	<40 mg/dL	100-500 mg/dL	Usually Positive	Positive	Negative	Negative
Viral Meningitis	Clear	<180 mm	25-1000/mm ³ (<50% PMN)	>40 mg/dL	50-100 mg/dL	Negative	Negative	Negative	Negative
Cryptococcal Meningitis	Clear	>200 mm	50-1000/mm ³ (<50% PMN)	<40 mg/dL	50-300 mg/dL	Negative	Negative	Positive	Positive

* Normal CSF glucose is dependent upon serum glucose. A rough guideline is that the CSF glucose is normally greater than half the serum glucose.

** Each 1000 WBC/mm³ in the CSF typically increases CSF protein by about 1.5 mg/dL.

Adapted from: Lipton JD, Schafermeyer RW. Evolving concepts in pediatric bacterial meningitis – Part 1: Pathophysiology and diagnosis. *Ann Emerg Med* 1993; 22:1602-1615.

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Rickettsia

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 Rickettsiosis](#) 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 Center 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

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 β -hemolysis during anaerobic incubation. They are nontypeable by Lancefield group.

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Condition Names, Condition Codes, Case Definition/Classification and Lab Confirmation Tests

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Amebiasis¹ 11040</p>	<p>Infection of the large intestine by <i>Entamoeba histolytica</i> that may result in an illness of variable severity ranging from mild, chronic diarrhea to fulminant dysentery. Infection also may be asymptomatic. Extraintestinal infection also can occur (e.g., hepatic absces)</p> <p>Confirmed, intestinal amebiasis: A clinically compatible illness that is laboratory confirmed</p> <p>Confirmed, extraintestinal amebiasis: A parasitologically confirmed infection of extraintestinal tissue, or among symptomatic persons (with clinical or radiographic findings consistent with extraintestinal infection), demonstration of specific antibody against <i>E. histolytica</i> as measured by indirect hemagglutination or other reliable immunodiagnostic test (e.g., enzyme-linked immunosorbent assay)</p>	<p><i>Intestinal amebiasis:</i></p> <ul style="list-style-type: none"> ▪ Demonstration of cysts or trophozoites of <i>E. histolytica</i> in stool, or ▪ Demonstration of trophozoites in tissue biopsy or ulcer scrapings by culture or histopathology <p><i>Extraintestinal amebiasis:</i></p> <ul style="list-style-type: none"> ▪ Demonstration of <i>E. histolytica</i> trophozoites in extraintestinal tissue
<p>Anaplasma phagocytophilum¹ 11090</p>	<p>A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leucopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash may be present in some cases. Intracytoplasmic bacterial aggregates (morulae) may be visible in the leukocytes of some patients.</p> <p>Confirmed: A clinically compatible illness that is laboratory confirmed</p> <p>Probable: A clinically compatible illness with serological evidence of IgG or IgM antibody reactive ($\geq 1:128$) with <i>A. phagocytophilum</i> antigen by IFA, ELISA, or dot-ELISA</p> <p>Suspected: A case with laboratory evidence of past/present infection with <i>A. phagocytophilum</i> (e.g., laboratory report) but no available clinical information</p>	<ul style="list-style-type: none"> ▪ Demonstration of a four-fold change in IgG-specific antibody titer to <i>A. phagocytophilum</i> antigen by indirect immunofluorescence assay (IFA) in paired serum samples (one taken in first week of illness and a second taken 2-4 weeks later), or ▪ Detection of <i>A. phagocytophilum</i> DNA in a clinical specimen by PCR, or ▪ Demonstration of anaplasma antigen in a biopsy/autopsy sample by IHC, or ▪ Isolation of <i>A. phagocytophilum</i> from a clinical specimen in cell culture.

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Anthrax¹ 10350</p>	<p>An illness with acute onset characterized by several distinct clinical forms, including the following:</p> <p><i>Cutaneous:</i> 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 may accompany the lesion.</p> <p><i>Inhalation:</i> 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.</p> <p><i>Intestinal:</i> Severe abdominal distress followed by fever and signs of septicemia</p> <p><i>Oropharyngeal:</i> Mucosal lesion in the oral cavity or oropharynx, with cervical adenopathy, edema, fever, and possible septicemia.</p> <p><i>Meningeal:</i> Fever, convulsions, coma or meningeal signs. This syndrome is usually secondary to the above syndromes.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Probable: A clinically compatible illness that does not meet the confirmed case definition, but with one of the following:</p> <ul style="list-style-type: none"> ▪ Epi-link to a documented anthrax environmental exposure; ▪ Evidence of <i>B. anthracis</i> DNA ▪ Positive result on serum specimen tests using the Quick ELISA Anthrax-PA kit; ▪ Detection of Lethal Factor (LF) in clinical serum specimens by LF mass spectrometry; ▪ Positive result on testing of culture from clinical specimens with the RedLine Alert test. 	<ul style="list-style-type: none"> ▪ Culture and identification of <i>B. anthracis</i> from clinical specimens by the Laboratory Response Network; or ▪ Detection of <i>B. anthracis</i> antigens in tissues by IHC using both <i>B. anthracis</i> cell wall and capsule monoclonal antibodies; or ▪ Evidence of 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 <i>B. anthracis</i> DNA. <p>Note: All Bacillus anthracis isolates must be submitted to the DSHS laboratory.</p>
<p>Antibiotic Resistant Isolates</p> <p>Table of Contents</p>	<p>Unexpected or unusual susceptibility results should be discussed with the DSHS Emerging and Infectious Disease staff or the DSHS laboratory staff. For example, if susceptibility results indicate an isolate is carbapenamase-producing or carbapenam-resistant Enterobacteriaceae (CRE) such as <i>Klebsiella pneumoniae</i>, the isolate as well as the susceptibility results should be forwarded to the DSHS Laboratory in a timely manner. Clinical laboratories should be aware of the possibility of NDM-1--producing Enterobacteriaceae in patients who have received medical care in India and Pakistan, and should specifically inquire about this risk factor when carbapenam-resistant Enterobacteriaceae are identified.</p> <p>Additional information on CRE may be found at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5810a4.htm</p> <p>Additional information on NDM-1 may be found at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5924a5.htm</p>	<p>Antimicrobial Resistance Laboratory Test Results</p> <ul style="list-style-type: none"> ▪ Carbapenam resistant <i>Enterobacteriaceae</i> (CRE) ▪ Carbapenamase-producing <i>Enterobacteriaceae</i> ▪ Carbapenam resistance and carbapenamase production conferred by New Delhi metallo-beta-lactamase (NDM-1) detected by phenotypic testing methods currently recommended by the Clinical and Laboratory Standards Institute, including disk diffusion testing and the modified Hodge test

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Arbovirus, Neuroinvasive (Encephalitis/Meningitis) and Non-neuroinvasive¹</p> <p><i>Neuroinvasive Disease:</i></p> <p>10058 Encephalitis, Cache Valley</p> <p>10054 Encephalitis/Meningitis, California</p> <p>10053 Encephalitis, Eastern equine (EEE)</p> <p>10059 Encephalitis, Japanese</p> <p>10057 Encephalitis, Powassan</p> <p>10051 Encephalitis, St. Louis (SLE)</p> <p>10055 Encephalitis, Venezuelan equine (VEE)</p> <p>10056 Encephalitis, West Nile (WNND)</p> <p>10052 Encephalitis, Western equine (WEE)</p> <p><i>Non-neuroinvasive Disease:</i></p> <p>10066 Cache Valley Virus</p> <p>10061 California serogroup virus</p> <p>10062 Eastern equine encephalitis virus</p> <p>10068 Japanese Encephalitis Virus</p> <p>10063 Powassan virus</p> <p>10064 St. Louis encephalitis virus</p> <p>10067 Venezuelan equine encephalitis Virus</p> <p>10049 West Nile Fever</p> <p>10065 Western equine encephalitis virus</p>	<p>Arboviral infections may be asymptomatic or may result in febrile illnesses of variable severity sometimes associated with central nervous system (CNS) involvement. When the CNS is affected, clinical syndromes include aseptic meningitis, myelitis and encephalitis, which are clinically indistinguishable from similar syndromes caused by other viruses. Arboviral meningitis is usually characterized by fever, headache, stiff neck, and pleocytosis in cerebrospinal fluid. Arboviral myelitis is usually characterized by fever and acute bulbar or limb paresis or flaccid paralysis. Arboviral encephalitis is usually characterized by fever, headache, and altered mental status ranging from confusion to coma with or without additional signs of brain dysfunction. Less common neurological syndromes can include cranial and peripheral neuritis or other neuropathies, including Guillain-Barré syndrome.</p> <p>Non-neuroinvasive syndromes caused by these usually neurotropic arboviruses can rarely include myocarditis, pancreatitis, or hepatitis. In addition, they may cause febrile illnesses (e.g., West Nile fever [WNF]) that are non-localized, self-limited illnesses with headache, myalgias, arthralgias, and sometimes accompanied by skin rash or lymphadenopathy. Laboratory-confirmed arboviral illnesses lacking documented fever can occur, and overlap among the various clinical syndromes is common.</p> <p>Cases of arboviral disease are classified either as neuroinvasive or non-neuroinvasive, according to the following criteria:</p> <p>Neuroinvasive: Requires the presence of fever and at least one of the following, as documented by a physician and in the absence of a more likely clinical explanation: Acutely altered mental status (e.g., disorientation, obtundation, stupor, or coma), or other acute signs of central or peripheral neurologic dysfunction (e.g., paresis or paralysis, nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, or abnormal movements); pleocytosis (increased white blood cell concentration in cerebrospinal fluid [CSF]) associated with illness clinically compatible with meningitis (e.g., headache or stiff neck)</p> <p>Non-neuroinvasive: Documented fever, as measured by the patient or clinician; absence of neuroinvasive disease (above), and; absence of a more likely clinical explanation for the illness</p> <p>Confirmed: A clinically compatible case with level one lab result</p> <p>Probable: A clinically compatible case with level two lab result</p>	<p><i>Level One Criteria</i></p> <ul style="list-style-type: none"> ▪ Four-fold or greater change in virus-specific serum antibody titer, or ▪ Isolation of virus from or demonstration of specific viral antigen or genomic sequences in tissue, blood, CSF, or other body fluid, or ▪ Virus-specific immunoglobulin M (IgM) antibodies demonstrated in CSF by antibody-capture enzyme immunoassay (EIA), or ▪ Virus-specific IgM antibodies demonstrated in serum by antibody-capture EIA and confirmed by demonstration of virus-specific serum immunoglobulin G (IgG) antibodies in the same or a later specimen by another serologic assay (e.g., neutralization or hemagglutination inhibition) <p><i>Level Two Criteria</i></p> <ul style="list-style-type: none"> ▪ Stable (less than or equal to a two-fold change) but elevated titer of virus-specific serum antibodies, or ▪ Virus-specific serum IgM antibodies detected by antibody-capture EIA but with no available results of a confirmatory test for virus-specific serum IgG antibodies in the same or a later specimen

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Aseptic meningitis¹ 10010	<p>A syndrome characterized by acute onset of meningeal symptoms (stiff neck, fever, and headache), cerebrospinal fluid pleocytosis (excessive lymphocytes), with no laboratory evidence of bacterial or fungal organisms. Aseptic meningitis is a syndrome of multiple etiologies, but many cases are caused by a viral agent. Viral meningitis and cases diagnosed as aseptic meningitis should be reported as Aseptic meningitis (unless the underlying cause is identified as a non-infectious source).</p> <p>Confirmed: A clinically compatible illness diagnosed by a physician as aseptic meningitis, with no laboratory evidence of bacterial or fungal meningitis; or a viral isolate from cerebrospinal fluid; or a viral isolate from blood with a clinically compatible illness diagnosed by a physician</p> <p>See Encephalitis/Meningitis Note</p>	<p><i>Laboratory Confirmation:</i></p> <ul style="list-style-type: none"> ▪ A viral isolate from cerebrospinal fluid, or ▪ A viral isolate from blood with physician diagnosis of aseptic meningitis <p><i>Supportive of Clinical Diagnosis:</i></p> <ul style="list-style-type: none"> ▪ No growth in CSF or blood cultures ▪ CSF with test results characteristic of viral meningitis
Bacterial meningitis, other¹ 10650	<p>Bacterial meningitis manifests most commonly with fever, headache, and a stiff neck; the disease may progress rapidly to shock and death. However, other manifestations may be observed.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Probable: A clinically compatible case diagnosed by a physician as bacterial meningitis without culture confirmation</p> <p>See Encephalitis/Meningitis Note</p>	<ul style="list-style-type: none"> ▪ Isolation of a bacterial species, fungus, or parasite from the cerebrospinal fluid or a clinically compatible case accompanied by a positive blood culture
Botulism, foodborne¹ 10530	<p>Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.</p> <p>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</p> <p>Probable: A clinically compatible case with a history of ingestion of a food item known to carry a risk for the botulism toxin</p>	<ul style="list-style-type: none"> ▪ Detection of botulinum toxin in serum, stool, or patient's food, or ▪ Isolation of <i>Clostridium botulinum</i> from stool <p>Note: All Clostridium botulinum isolates must be submitted to the DSHS laboratory.</p>
Botulism, infant¹ 10540	<p>An illness of infants, characterized by constipation, poor feeding, and "failure to thrive" that may be followed by progressive weakness, impaired respiration, and death.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed, occurring in a child aged less than 1 year</p>	<ul style="list-style-type: none"> ▪ Detection of botulinum toxin in stool or serum, or ▪ Isolation of <i>Clostridium botulinum</i> from stool <p>Note: All Clostridium botulinum isolates must be submitted to the DSHS laboratory</p>

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Botulism, other unspecified¹ 10548	<p>Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.</p> <p>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</p>	<ul style="list-style-type: none"> ▪ Detection of botulinum toxin in clinical specimen, or ▪ Isolation of <i>Clostridium botulinum</i> from clinical specimen <p>Note: All Clostridium botulinum isolates must be submitted to the DSHS laboratory</p>
Botulism, wound¹ 10549	<p>An illness resulting from toxin produced by <i>Clostridium botulinum</i> that has infected a wound. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.</p> <p>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</p>	<ul style="list-style-type: none"> ▪ Detection of botulinum toxin in serum, or ▪ Isolation of <i>Clostridium botulinum</i> from wound <p>Note: All Clostridium botulinum isolates must be submitted to the DSHS laboratory</p>
Brucellosis 10020	<p>An illness characterized by acute or insidious onset of fever and one or more of the following: night sweats, fatigue, anorexia, weight loss, headache, arthralgia, myalgia, meningitis, arthritis/spondylitis, or focal organ involvement (endocarditis, orchitis/epididymitis, hepatomegaly, splenomegaly).</p> <p>Confirmed: A clinically compatible illness that is laboratory confirmed</p> <p>Probable: A clinically compatible case with at least one of the following:</p> <ul style="list-style-type: none"> ▪ Epidemiologically linked to a confirmed human or animal brucellosis case, or ▪ <i>Brucella</i> total antibody agglutination titer greater than or equal to 160 in one or more serum specimens obtained after onset of symptoms, or ▪ Detection of <i>Brucella</i> DNA in a clinical specimen by PCR assay 	<ul style="list-style-type: none"> ▪ Culture and identification of <i>Brucella</i> spp. from clinical specimens, or ▪ Fourfold or greater rise in <i>Brucella</i> agglutination titer between acute- and convalescent-phase serum specimens obtained greater than or equal to 2 weeks apart and studied at the same laboratory <p>Note: All Brucella species isolates must be submitted to the DSHS laboratory.</p>
California encephalitis virus	<p>See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>	<p>See Lab Confirmation Tests for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>
Campylobacteriosis 11020	<p>An infection that may result in diarrheal illness of variable severity.</p> <p>Confirmed: A case that is laboratory confirmed</p> <p>Probable: A clinically compatible case that is epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Campylobacter</i> from any clinical specimen
Chickenpox (See Varicella) 10030	<p>See Varicella</p>	

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Cholera (toxigenic <i>Vibrio cholerae</i> O1 or O139)¹ 10470</p>	<p>An illness characterized by diarrhea and/or vomiting; severity is variable.</p> <p>Confirmed: A clinically compatible illness that is laboratory confirmed</p> <p><i>Comment:</i> Illnesses caused by strains of <i>V. cholerae</i> other than toxigenic <i>V. cholerae</i> O1 or O139 should not be reported as cases of cholera. (See Vibrio parahaemolyticus, Vibrio spp., non-toxigenic, other or unspecified, and Vibrio vulnificus)</p>	<ul style="list-style-type: none"> ▪ Isolation of toxigenic (i.e., cholera toxin-producing) <i>Vibrio cholerae</i> O1 or O139 from stool or vomitus, or ▪ Serologic evidence of recent infection <p>Note: All Vibrio species isolates must be submitted to the DSHS laboratory</p>
<p>Coccidioidomycosis¹ 11900</p>	<p>Infection may be asymptomatic or may produce an acute or chronic disease. Although the disease initially resembles an influenza-like or pneumonia-like febrile illness primarily involving the bronchopulmonary system, dissemination can occur to multiple organ systems. Illness is characterized by one or more of the following: influenza-like signs and symptoms (e.g., fever, chest pain, cough, myalgia, arthralgia, and headache); pneumonia or other pulmonary lesion, diagnosed by chest radiograph; erythema nodosum or erythema multiforme rash; involvement of bones, joints, or skin by dissemination; meningitis; involvement of viscera and lymph nodes</p> <p><i>Confirmed:</i> A case that meets the clinical case definition and is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ Culture, histopathologic, or molecular evidence of presence of <i>Coccidioides immitis</i>, or ▪ Positive serologic test for coccidioidal antibodies in serum, cerebrospinal fluid or other body fluids by 1) detection of coccidioidal immunoglobulin M (IGM) by immunodiffusion, enzyme immunoassay (EIA), latex agglutination, or tube precipitin, or 2) detection of coccidioidal immunoglobulin G (IgG) by immunodiffusion, EIA, or complement fixation, or ▪ Coccidioidal skin-test conversion from negative to positive after onset of clinical signs and symptoms
<p>Contaminated Sharps Injury² Table of Contents</p>	<p>Any sharps injury that occurs with a sharp used or encountered in a health care setting that is contaminated with human blood or body fluids. Contaminated sharps injuries in private facilities are reported to OSHA and those in Texas public facilities (government entities) are reported to DSHS Infectious Disease Control Unit. Both source person and injured employee should be tested for HIV, HBV, and HCV. 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 September 20, 2005. 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.</p>	<p>See referenced U.S. Public Health Service Guidelines for recommended follow-up testing.</p>

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<p>Creutzfeldt-Jakob Disease (CJD)^{3,4} 80060 (continued next Page)</p>	<p>Creutzfeldt-Jakob disease (CJD) is a fatal brain disorder that has four types; sporadic, variant, iatrogenic, and familial. Clinical presentation as well as brain pathology varies with each type. Symptoms may include behavioral changes, confusion, difficulty remembering recent events, and loss of feeling in the arms, legs, or face. Patients may lose their balance or seem uncoordinated — they may have difficulty walking or have muscle jerks and spasms. There is no effective treatment. Duration of illness depends on type of CJD, generally 3 to 12 months. Familial CJD may have duration up to 10 years.</p> <p>Sporadic CJD— Confirmed: Diagnosed by standard neuropathological techniques; and/or immunocytochemically; and/or Western blot confirmed protease-resistant PrP; and/or presence of scrapie-associated fibrils. Probable: Rapidly progressive dementia;</p> <ul style="list-style-type: none"> ▪ AND at least two of the following four clinical features: <ul style="list-style-type: none"> ○ Myoclonus ○ Visual or cerebellar signs ○ Pyramidal/extrapyramidal signs ○ Akinetic mutism ▪ AND a positive result on at least one of the following laboratory tests: <ul style="list-style-type: none"> ○ A typical EEG (periodic sharp wave complexes) during an illness of any duration; and/or ○ A positive 14-3-3 cerebrospinal fluid (CSF) assay in patients with a disease duration of less than 2 years ○ Magnetic resonance imaging (MRI) high signal abnormalities in caudate nucleus and/or putamen on diffusion-weighted imaging (DWI) or fluid attenuated inversion recovery (FLAIR) ▪ AND without routine investigations indicating an alternative diagnosis. <p>Possible: Progressive dementia;</p> <ul style="list-style-type: none"> ▪ AND at least two out of the following four clinical features: <ul style="list-style-type: none"> ○ Myoclonus ○ Visual or cerebellar signs ○ Pyramidal/extrapyramidal signs ○ Akinetic mutism ▪ AND all of the following <ul style="list-style-type: none"> ○ The absence of a positive result for any of the three laboratory tests that would classify a case as “probable” ○ Duration of illness less than two years ○ Without routine investigations indicating an alternative diagnosis. 	<p>Neuropathology is necessary for the confirmation of CJD: the use of cerebral biopsy in living patients is to be discouraged unless its purpose is to arrive at an alternative diagnosis of a treatable disorder. Autopsy (or postmortem biopsy of the brain where autopsy is not possible) is strongly encouraged and is necessary to accurately diagnose any suspected case of CJD.</p> <p>Note: The National Prion Disease Pathology Surveillance Center (NPDPSC) assists clinicians in the diagnosis of prion disease. The NPDPSC assists clinicians by analyzing cerebrospinal fluid, blood, and brain tissue. NPDPSC provides free autopsy services for suspected cases of CJD through their autopsy network. Information about diagnostic services, protocols for various CJD testing, and specimen submission can be obtained at http://www.cjdsurveillance.com/</p> <p>Physicians are strongly encouraged to confirm the diagnosis of CJD by arranging for an autopsy following the death of the person suspected of having CJD. This is especially important if the person had an onset at age less than 55. Please contact the center above for assistance or specimen submission.</p>

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	<p>Iatrogenic CJD—</p> <ul style="list-style-type: none"> ▪ Progressive cerebellar syndrome in a recipient of human cadaveric-derived pituitary hormone; or ▪ Sporadic CJD with a recognized exposure risk, e.g., antecedent neurosurgery with dura mater implantation. <p>Familial CJD—</p> <ul style="list-style-type: none"> ▪ Definite or probable CJD plus definite or probable CJD in a first degree relative; and/or ▪ Neuropsychiatric disorder plus disease-specific PrP gene mutation. <p>Variant CJD—</p> <p>Confirmed: Neuropathologic examination of brain tissue is required to confirm a diagnosis of variant CJD. The following confirmatory features should be present.</p> <ul style="list-style-type: none"> ▪ Numerous widespread kuru-type amyloid plaques surrounded by vacuoles in both the cerebellum and cerebrum - florid plaques. ▪ Spongiform change and extensive prion protein deposition shown by immunohistochemistry throughout the cerebellum and cerebrum. <p>Suspected: Variant CJD should be considered for cases with any of the following.</p> <p>a) current age or age at death <55 years (a brain autopsy is recommended 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; 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 prion protein gene mutation in the patient</p> <p>If a patient has the typical bilateral pulvinar high signal on MRI scan, a suspected diagnosis of variant CJD requires the presence of a progressive neuropsychiatric disorder, d, e, f and g of the above criteria, and four of the following five criteria: 1) early psychiatric symptoms (anxiety, apathy, delusions, depression, withdrawal); 2) persistent painful sensory symptoms (frank pain and/or dysesthesia); 3) ataxia; 4) myoclonus or chorea or dystonia; and 5) dementia.</p> <p>Note: 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.</p>	<p>Neuropathology is necessary for the confirmation of CJD: the use of cerebral biopsy in living patients is to be discouraged unless its purpose is to arrive at an alternative diagnosis of a treatable disorder. Autopsy (or postmortem biopsy of the brain where autopsy is not possible) is strongly encouraged and is necessary to accurately diagnose any suspected case of CJD.</p> <p>Note: The National Prion Disease Pathology Surveillance Center (NPDPSC) assists clinicians in the diagnosis of prion disease. The NPDPSC assists clinicians by analyzing cerebrospinal fluid, blood, and brain tissue. NPDPSC provides free autopsy services for suspected cases of CJD through their autopsy network. Information about diagnostic services, protocols for various CJD testing, and specimen submission can be obtained at http://www.cjdsurveillance.com/</p> <p>Physicians are strongly encouraged to confirm the diagnosis of CJD by arranging for an autopsy following the death of the person suspected of having CJD. This is especially important if the person had an onset at age less than 55. Please contact the center above for assistance or specimen submission.</p>

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<p>Cryptosporidiosis¹ 11580</p>	<p>An illness caused by the protozoan <i>Cryptosporidium</i> and characterized by diarrhea, abdominal cramps, loss of appetite, low-grade fever, nausea, and vomiting. Infected persons may be asymptomatic. The disease can be prolonged and life-threatening in severely immunocompromised persons.</p> <p>Confirmed: A case that is laboratory confirmed</p> <p>Probable: A clinically compatible case that is epidemiologically linked to a confirmed case by one of the following means:</p> <ul style="list-style-type: none"> ▪ Household or other close contact to a lab-confirmed case with onset of symptoms within 1 month (before or after) ▪ 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 <p>Note: Diarrhea is usually defined as ≥ 3 loose stools in a 24 hour period.</p>	<p>Detection of a member of the genus <i>Cryptosporidium</i> by one of the following methods:</p> <ul style="list-style-type: none"> ▪ Organisms in stool, intestinal fluid, or tissue samples or biopsy specimens, or ▪ Antigens in stool or intestinal fluid, or ▪ Nucleic acid by PCR in stool, intestinal fluid, or tissue samples or biopsy specimens
<p>Cyclosporiasis¹ 11575</p>	<p>An illness of variable severity caused by the protozoan <i>Cyclospora cayetanensis</i> and commonly characterized by watery diarrhea, loss of appetite, weight loss, abdominal bloating and cramping, increased flatus, nausea, fatigue, and low-grade fever. Vomiting also may be noted. Relapses and asymptomatic infections can occur.</p> <p>Confirmed: A laboratory-confirmed case with or without clinical symptoms</p>	<p>Detection—in symptomatic or asymptomatic persons— of <i>Cyclospora</i>:</p> <ul style="list-style-type: none"> ▪ Oocysts in stool by microscopic examination, or in intestinal fluid or small bowel biopsy specimens, or ▪ Demonstration of sporulation, or DNA (by polymerase chain reaction) in stool, duodenal/jejunal aspirates or small bowel biopsy specimens
<p>Cysticercosis⁵ (Also see <i>Taenia solium</i>) 12031</p>	<p>Cysticercosis is an infection caused by the larval form of the pork tapeworm, <i>Taenia solium</i>. Infection occurs when the tapeworm eggs are ingested, hatch into larvae, and migrate to tissues where they form cysticerci (cysts). The symptoms of cysticercosis reflect the development of cysticerci in various sites. 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 symptoms. Asymptomatic subcutaneous nodules and calcified intramuscular nodules can be encountered.</p> <p>Note: Also see <i>Taenia solium</i></p> <p>Confirmed: Laboratory confirmation of the presence of cysticercus in tissue</p>	<p>Presumptive diagnosis of neurocysticercosis is usually made by MRI or CT brain scans. Blood tests are available to help diagnose an infection, but may not always be accurate. If surgery is necessary, confirmation of the diagnosis can be made by demonstrating the cysticercus in the tissue involved.</p> <p>Note: Demonstration of <i>Taenia solium</i> eggs and proglottids in the feces diagnoses 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.</p>

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<p>Dengue Fever¹ 10680</p>	<p>Dengue fever is an acute febrile illness characterized by the presence of fever and two or more of the following: retro-orbital or ocular pain, headache, rash, myalgia, arthralgia, leucopenia or hemorrhagic manifestations (e.g., positive tourniquet test; petechiae; purpura/ecchymosis; epistaxis; gum bleeding; blood in vomitus, urine, or stool; or vaginal bleeding), but NOT meeting the case definition of Dengue hemorrhagic fever.</p> <p>Confirmed: A clinically compatible case with confirmatory lab results.</p> <p>Probable: A clinically compatible case with the following laboratory criteria: Dengue-specific IgM antibodies present in serum with a P/N ratio ≥ 2.</p> <p>Suspected: A clinically compatible case that is epidemiologically-linked to a confirmed case.</p> <p>Exposure: Travel to a dengue endemic country or presence at location with ongoing outbreak within previous two weeks of dengue-like illness, or association in time and place with a confirmed or probable dengue case.</p>	<ul style="list-style-type: none"> ▪ Isolation of dengue virus from tissue, blood, CSF, or other body fluid, or ▪ Demonstration of specific dengue virus antigen or genomic sequences in tissue, blood, CSF, or other body fluid by PCR, IHC or IFA, or ▪ Seroconversion from negative dengue IgM in an acute phase specimen (≤ 5 days after symptom onset) to positive IgM in a convalescent-phase specimen (collected ≥ 5 days after symptom onset), or ▪ Demonstration of a ≥ 4-fold rise in IgG antibody titer or hemagglutination inhibition (HAI) titer to dengue virus antigens in paired acute and convalescent serum samples, or ▪ Demonstration of a >4-fold rise in a plaque reduction neutralization test (PRNT) end point titer between dengue viruses and other flaviviruses tested in a convalescent serum sample, or ▪ Dengue-specific IgM antibodies demonstrated in CSF
<p>Dengue Hemorrhagic Fever¹ 10685</p>	<p>Dengue hemorrhagic fever is characterized by all of the following:</p> <ul style="list-style-type: none"> ▪ Fever lasting from 2-7 days ▪ Evidence of hemorrhagic manifestation or a positive tourniquet test ▪ Thrombocytopenia ($\leq 100,000$ cells per mm³) ▪ Evidence of plasma leakage shown by hemoconcentration (an increase in hematocrit $>20\%$ above average for age or a decrease in hematocrit $>20\%$ of baseline following fluid replacement therapy), OR pleural effusion, ascites, or hypoproteinemia. <p>Confirmed: Probable: Suspected: - For case definitions, refer to clinical description above and apply to case classification criteria and exposure note for Dengue Fever (DF), Condition Code 10680</p>	<p>*See laboratory confirmation criteria for Dengue Fever (DF), Condition Code 10680</p>
<p>Dengue Shock Syndrome (DSS)¹ Table of Contents</p>	<p>Dengue shock syndrome has all of criteria for DHF, plus circulatory failure, as evidenced by the following:</p> <ul style="list-style-type: none"> ▪ Rapid and weak pulse and narrow pulse pressure (<20mm Hg), OR ▪ Age-specific hypotension, cold, clammy skin, and restlessness <p>Confirmed: Probable: Suspected: - For case definitions, refer to clinical description above and apply to case classification criteria and exposure note for Dengue Fever (DF), Condition Code 10680</p>	<p>*See laboratory confirmation criteria for Dengue Fever (DF), Condition Code 10680</p>

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<p>Diphtheria⁶ 10040</p>	<p>An upper respiratory tract illness characterized by sore throat, low-grade fever, and an adherent membrane of the tonsil(s), pharynx, and/or nose.</p> <p>Confirmed: A clinically compatible case that is either laboratory confirmed or epidemiologically linked to a laboratory-confirmed case</p> <p>Probable: A clinically compatible case that is not laboratory confirmed and is not epidemiologically linked to a laboratory-confirmed case</p> <p>Note: Cutaneous diphtheria should not be reported. All diphtheria isolates, regardless of association with disease, should be sent to the DSHS laboratory.</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Corynebacterium diphtheriae</i> from a clinical specimen, or ▪ Histopathologic diagnosis of diphtheria
<p>Eastern equine encephalitis virus (VEE)</p>	<p>See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>	<p>See Lab Confirmation Tests for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>
<p>Ebola Virus 11630 Discontinued</p>	<p>See Viral Hemorrhagic Fever</p>	
<p>Ehrlichia chaffeensis¹ 11088</p>	<p>A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leucopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash may be present in some cases. Intracytoplasmic bacterial aggregates (morulae) may be visible in the leukocytes of some patients.</p> <p>Confirmed: A clinically compatible illness that is laboratory confirmed</p> <p>Probable: A clinically compatible illness with serological evidence of IgG or IgM antibody reactive (\geq1:128) with <i>E. chaffeensis</i> antigen by IFA, ELISA, or dot-ELISA</p> <p>Suspected: A case with laboratory evidence of past/present infection with <i>E. chaffeensis</i> (e.g., laboratory report) but no available clinical information</p>	<ul style="list-style-type: none"> ▪ Demonstration of a four-fold change in IgG-specific antibody titer to <i>E. chaffeensis</i> antigen by indirect immunofluorescence assay (IFA) in paired serum samples (one taken in first week of illness and a second taken 2-4 weeks later), or ▪ Detection of <i>E. chaffeensis</i> DNA in a clinical specimen by PCR, or ▪ Demonstration of ehrlichial antigen in a biopsy/autopsy sample by IHC, or ▪ Isolation of <i>E. chaffeensis</i> from a clinical specimen in cell culture.
<p>Ehrlichia ewingii¹ 11089</p>	<p>A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leucopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash may be present in some cases. Intracytoplasmic bacterial aggregates (morulae) may be visible in the leukocytes of some patients.</p> <p>Confirmed: A clinically compatible illness that is laboratory confirmed</p> <p>Suspected: A case with laboratory evidence of past/present infection with <i>E. ewingii</i> (e.g., laboratory report) but no available clinical information</p>	<ul style="list-style-type: none"> ▪ Detection of <i>E. ewingii</i> DNA in a clinical specimen by PCR <p>Note: Because the organism has never been cultured, antigens are not available. Thus, <i>E. ewingii</i> infections may only be diagnosed by molecular detection methods.</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Ehrlichiosis/Anaplasmosis – Undetermined¹ 11091	<p>A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leucopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash may be present in some cases. Intracytoplasmic bacterial aggregates (morulae) may be visible in the leukocytes of some patients.</p> <p>Probable: A clinically compatible illness with serological evidence of IgG or IgM antibody reactive ($\geq 1:128$) with <i>Ehrlichia spp.</i> by IFA, ELISA, or dot-ELISA, OR identification of morulae in white cells by microscopic examination in the absence of other supportive lab results.</p> <p>Suspected: A case with laboratory evidence of past/present infection with undetermined <i>Ehrlichia/Anaplasma spp.</i> but no available clinical information.</p> <p>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 <i>E. chaffeensis</i>, <i>A. phagocytophilum</i>, or <i>E. ewingii</i>. This may include the identification of morulae in white cells by microscopic examination in the absence of other supportive laboratory results.</p>	Not applicable - See note
Encephalitis, Arboviral 10058 Encephalitis, Cache Valley 10054 Encephalitis/Meningitis, California 10053 Encephalitis, Eastern equine (EEE) 10059 Encephalitis, Japanese 10057 Encephalitis, Powassan 10051 Encephalitis, St. Louis (SLE) 10055 Encephalitis, Venezuelan equine (VEE) 10056 Encephalitis, West Nile (WNND) 10052 Encephalitis, Western equine (WEE)	See Case Definition/Case Classification for Arbovirus , Neuroinvasive (Encephalitis/meningitis)	See Lab Confirmation Tests for Arbovirus , Neuroinvasive (Encephalitis/meningitis)

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Encephalitis, Nonarboviral¹ 10050</p>	<p>Encephalitis is an inflammation of the brain, usually caused by a direct viral infection or a hypersensitivity reaction to a virus or foreign protein (including vaccine). An inflammation of the brain's covering, or meninges, is called meningitis (see Aseptic and Bacterial, Other Meningitis guides). Clinical description: An illness in which encephalitis is the major manifestation. Symptoms are due to direct invasion and replication of the infectious agent in the central nervous system, resulting in objective clinical evidence of cerebral or cerebellar dysfunction. Postinfectious (or parainfectious) encephalitis is encephalitis or meningoencephalitis that follows or occurs in combination with other viral illnesses that are not central nervous system illnesses, or after vaccine is administered. Symptoms may be due to hypersensitivity reaction.</p> <p>Confirmed: A clinically compatible illness diagnosed by a physician as primary encephalitis or a clinically compatible illness diagnosed by a physician as postinfectious (or parainfectious) encephalitis (other than the arboviral encephalities).</p> <p>See Encephalitis/Meningitis Note</p>	<p>Laboratory studies are important in clinical diagnosis but are not required for reporting purposes.</p>
<p>Escherichia coli, shiga-toxin producing (STEC)¹ 11563</p>	<p>An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by hemolytic uremic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP); asymptomatic infections also may occur and the organism may cause extraintestinal infections.</p> <p>Confirmed: A case that meets the laboratory criteria for diagnosis; when available, O and H antigen serotype characterization should be reported</p> <p>Probable:</p> <ul style="list-style-type: none"> ▪ A case with isolation of <i>E. coli</i> 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 <i>E. coli</i> 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 <i>E. coli</i> <p>Suspected: A case of postdiarrheal HUS or TTP (See Hemolytic uremic syndrome, postdiarrheal).</p> <p>Note: Cases meeting the criteria for confirmed or probable STEC and HUS should be reported under each condition.</p>	<ul style="list-style-type: none"> ▪ Isolation of Shiga toxin-producing <i>Escherichia coli</i> from a clinical specimen. <ul style="list-style-type: none"> ○ <i>Escherichia coli</i> O157:H7 isolates may be assumed to be Shiga toxin-producing; for all other <i>E. coli</i> isolates, Shiga toxin production or the presence of Shiga toxin genes must be determined to be considered STEC. ○ Shiga-toxin producing - detection of Shiga toxin, Shiga-like toxin, verotoxin, or Shiga toxin genes in stool or enrichment broths by EIA (enzyme immunoassay), PCR, or cell culture methods <p>Note: All E.coli O157:H7, isolates or specimens from cases where Shiga-toxin* activity is demonstrated isolates must be submitted to the DSHS laboratory</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Giardiasis ¹ 11570	<p>An illness caused by the protozoan <i>Giardia lamblia</i> and characterized by diarrhea, abdominal cramps, bloating, weight loss, or malabsorption. Infected persons may be asymptomatic.</p> <p><i>Confirmed:</i> A case that is laboratory confirmed</p> <p><i>Probable:</i> A clinically compatible case that is epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Demonstration of <i>G. lamblia</i> cysts in stool, or ▪ Demonstration of <i>G. lamblia</i> trophozoites in stool, duodenal fluid, or small-bowel biopsy, or ▪ Demonstration of <i>G. lamblia</i> antigen in stool by a specific immunodiagnostic test (e.g., enzyme-linked immunosorbent assay)
Granulomatous amebic meningoencephalitis (GAE) ⁷ 10096	<p>Several species of <i>Acanthamoeba</i> and <i>Balamuthia mandrillaris</i> (leptomyxid amebae) can invade the brain and meninges of immunocopromised individuals, probably after entry through a skin lesion and without involvement of the nasal and olfactory tissues; this causes a granulomatous disease (granulomatous amebic encephaliits) of insidious onset and lasting from 8 days to several months.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Note: See also Primary amebic encephalitis (PAM)</p>	<ul style="list-style-type: none"> ▪ Identification of <i>Acanthamoeba</i>, <i>Balamuthia mandrillaris</i> or other free-living ameba (less frequently <i>Naegleria fowleri</i> organisms)
Group A <i>Streptococcus</i>, invasive ¹ 11710	<p>Invasive group A streptococcal infections may manifest as any of several clinical syndromes, including pneumonia, <u>bacteremia in association with cutaneous infection</u> (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 nonfocal bacteremia.</p> <p>Confirmed: A case that is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ Isolation of group A streptococci (<i>Streptococcus pyogenes</i>) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid) <p>Note: See Normally Sterile Site and Streptococcus Classification</p>
Group B <i>Streptococcus</i>, invasive ⁸ 11715	<p>Group B <i>Streptococcus</i> 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 <i>Streptococcus</i> is characterized by sepsis, respiratory distress, apnea, shock, pneumonia and meningitis, is acquired in utero or during delivery, and occurs more frequently in low birth weight infants.</p> <p>Group B <i>Streptococcus</i>, 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 in adults, group B <i>Streptococcus</i> can cause meningitis.</p> <p>Confirmed: A case that is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ Isolation of group B streptococci (<i>Streptococcus agalactiae</i>) species by a culture from a normally sterile site <p>Note: See Normally Sterile Site and Streptococcus Classification</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p><i>Haemophilus influenzae</i> type b, invasive disease⁶</p> <p>10590</p>	<p><i>Haemophilus influenzae</i> type b may produce any of several clinical syndromes. Only invasive manifestations, however, are reportable. These include meningitis, bacteremia/septicemia, epiglottitis, pericarditis, osteomyelitis, septic arthritis, and cellulitis.</p> <p>Confirmed: A clinically compatible case that is lab confirmed and identified specifically as <i>H. influenzae</i> type b</p> <p>Probable: A clinically compatible illness with detection of <i>H. influenzae</i> type b antigen in cerebrospinal fluid (CSF)</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>H. influenzae</i> type b from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid) <p>Note: See Normally Sterile Site</p> <p><i>Haemophilus influenzae</i> that is not typed or is not type b is not reportable as <i>H. flu</i> type b. Serotyping of isolates can be performed at the DSHS laboratory.</p>
<p>Hantavirus infection⁷</p> <p>11610</p>	<p>An acute zoonotic viral disease characterized by fever, myalgias and GI complaints followed by the abrupt onset of respiratory distress and hypotension. The illness progresses rapidly to severe respiratory failure and shock. An elevated hematocrit, hypoalbuminemia and thrombocytopenia are found in most cases. Renal and hemorrhagic manifestations are usually conspicuously absent except in some severe cases.</p> <p>Confirmed: A clinically compatible case with confirmatory laboratory results</p>	<p>Diagnosis is made by the demonstration of specific IgM antibodies using ELISA, Western blot or strip immunoblot techniques. Most patients have IgM antibodies at the time of hospitalization. PCR analysis of autopsy or biopsy tissues and immunohistochemistry are also established diagnostic techniques in specialized laboratories.</p>
<p>Hantavirus pulmonary syndrome¹</p> <p>11590</p>	<p>Hantavirus pulmonary syndrome (HPS), commonly referred to as hantavirus disease, is a febrile illness characterized by bilateral interstitial pulmonary infiltrates and respiratory compromise usually requiring supplemental oxygen and clinically resembling acute respiratory disease syndrome (ARDS). The typical prodrome consists of fever, chills, myalgia, headache, and gastrointestinal symptoms. Typical clinical laboratory findings include hemoconcentration, left shift in the white blood cell count, neutrophilic leukocytosis, thrombocytopenia, and circulating immunoblasts.</p> <p>Clinical evidence: Illness characterized by one or more of the following:</p> <ul style="list-style-type: none"> ▪ A febrile illness (temperature greater than 101.0° F), with <ul style="list-style-type: none"> ○ 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 in a previously healthy person <p>OR</p> <ul style="list-style-type: none"> ▪ An unexplained respiratory illness resulting in death, with an autopsy examination demonstrating noncardiogenic pulmonary edema without an identifiable cause. <p>Confirmed: A clinically compatible case (meets clinical evidence criteria) with confirmatory laboratory results</p>	<ul style="list-style-type: none"> ▪ Detection of hantavirus-specific immunoglobulin M or rising titers of hantavirus-specific immunoglobulin G, or ▪ Detection of hantavirus-specific ribonucleic acid sequence by polymerase chain reaction in clinical specimens, or ▪ Detection of hantavirus antigen by immunohistochemistry

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Hemolytic uremic syndrome, postdiarrheal (HUS)¹ 11550</p>	<p>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 may have a more gradual onset. Most cases of HUS (but few cases of TTP) occur after an acute gastrointestinal illness (usually diarrheal).</p> <p>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</p> <p>Probable:</p> <ul style="list-style-type: none"> ▪ 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 <p>Note: See Escherichia coli, Shiga-toxin producing (STEC). Cases meeting the criteria for both conditions should be reported under each condition.</p>	<p>The following are both present at some time during the illness:</p> <ul style="list-style-type: none"> ▪ 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) <p>Note: A low platelet count can usually, but not always, be detected early in the illness, but it may 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.</p>
<p>Hepatitis A, acute¹ 10110</p>	<p>An acute illness with at least one of the following a) discrete onset of symptoms b) jaundice or c) elevated serum aminotransferase levels.</p> <p>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</p>	<ul style="list-style-type: none"> ▪ Immunoglobulin M (IgM) antibody to hepatitis A virus (anti- HAV IgM) positive
<p>Hepatitis B, acute⁶ 10100</p>	<p>An acute illness with at least one of the following a) discrete onset of symptoms b) jaundice or c) elevated serum aminotransferase levels.</p> <p>Confirmed: A case that meets the clinical case definition and is either laboratory confirmed or is epidemiologically linked to a person with laboratory confirmed acute or chronic hepatitis B.</p> <p>Note: A person should be considered chronically infected if the hepatitis B surface antigen (HBsAg) has been positive for 6 months or longer or if the patient has a history of chronic hepatitis B diagnosis.</p>	<ul style="list-style-type: none"> ▪ IgM antibody to hepatitis B core antigen (anti-HBc IgM) positive, or ▪ Hepatitis B surface antigen (HBsAg) positive and anti-HAV IgM negative (if done)

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Hepatitis B virus infection, chronic ⁶ 10105	<p>Persons with chronic hepatitis B virus (HBV) infection may have no evidence of liver disease or may have a spectrum of disease ranging from chronic hepatitis to cirrhosis or liver cancer. Persons with chronic infection may be asymptomatic.</p> <p><i>Confirmed:</i> A case that is laboratory confirmed</p> <p><i>Probable:</i> A case with a single HBsAg or HBeAg or HBV DNA positive lab result when no IgM anti-HBc results are available</p>	<ul style="list-style-type: none"> ▪ IgM anti-HBc negative (IgM antibody to HBV core antigen) if done, AND ▪ Positive on one of the following tests: HBsAg (hepatitis B surface antigen), HBeAg (hepatitis B e antigen), or HBV DNA, OR ▪ HBsAg, HBeAg, or HBV DNA positive two times at least 6 months apart. (Any combination of these tests performed 6 months apart.)
Hepatitis B virus infection, perinatal ⁶ 10104	<p>Perinatal hepatitis B (HBV) in the newborn may range from asymptomatic to fulminant hepatitis.</p> <p>Confirmed: HBsAg positive in any infant aged >1 through 24 months who was born in the US or in US territories to an HBsAg-positive mother</p>	<ul style="list-style-type: none"> ▪ Hepatitis B surface antigen (HBsAg) positive
Hepatitis C, acute ^{1,9} 10101	<p>An acute illness with a) discrete onset of symptoms consistent with acute viral hepatitis (e.g., anorexia, abdominal discomfort, nausea, vomiting), and b) jaundice or abnormal serum alanine aminotransferase levels (ALT level >400 IU/L).</p> <p>Confirmed: A case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis C (HCV)</p> <p>*****</p> <p>Perinatal or Infant Hepatitis C: (birth to two years, if greater than 2 years of age please code as above)</p> <p>Confirmed: Any PCR positive infant. (Testing at 12-18 months is recommended to determine whether infection is resolved or chronic.)</p> <p>Suspected: Any HCV Ab (EIA, RIBA) positive infant. Due to maternal antibody infants should be followed-up and re-classified at around 12- 18 months of age based on follow-up laboratory testing.</p>	<ul style="list-style-type: none"> ▪ 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#section1 , or ▪ Recombinant immunoblot assay (HCV RIBA) positive, or ▪ Nucleic acid testing for hepatitis C virus (NAT for HCV RNA) positive; <p>And meets the following two criteria</p> <ul style="list-style-type: none"> ▪ IgM antibody to hepatitis A virus (IgM anti-HAV) negative, and ▪ IgM antibody to hepatitis B core antigen (IgM anti-HBc) negative

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Hepatitis C virus infection, chronic (past or present)¹ 10106</p>	<p>Most hepatitis C virus (HCV)-infected persons are asymptomatic. However, many have chronic liver disease, which can range from mild to severe including cirrhosis and liver cancer.</p> <p><i>Confirmed:</i> A case that is laboratory confirmed and that does not meet the case definition for acute hepatitis C</p> <p><i>Probable:</i> A case that is anti-HCV positive by EIA and has alanine aminotransferase (ALT or SGPT) values above the upper limit of normal (if known), but the anti-HCV EIA result has not been verified by an additional more specific assay or the signal to cutoff ratio is unknown</p>	<ul style="list-style-type: none"> ▪ Anti-HCV positive (repeat reactive) by EIA, verified by an additional more specific assay (e.g., RIBA for anti-HCV or nucleic acid testing for HCV RNA), or ▪ 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#section1 , or ▪ Recombinant immunoblot assay (HCV RIBA) positive, or ▪ Nucleic acid testing (NAT) for hepatitis C virus for HCV RNA positive, or ▪ Report of HCV genotype
<p>Hepatitis Delta co- or super-infection, acute (Hepatitis D)¹ 10102</p>	<p>An acute illness with a) discrete onset of symptoms and b) jaundice or elevated serum aminotransferase levels.</p> <p><i>Confirmed:</i> A case that meets the clinical case definition and is laboratory confirmed</p> <p><i>Probable:</i> A case with laboratory evidence of HBV and HDV infection in the absence of clinical information.</p> <p>Note: Hepatitis D is a liver disease caused by the hepatitis D virus (HDV), a defective virus that needs the hepatitis B virus to exist. Hepatitis D virus is found in the blood of persons infected with the virus. Symptoms include jaundice, fatigue, abdominal pain, loss of appetite, nausea, vomiting, joint pain, and dark urine. HBV-HDV co-infection may cause more severe acute disease and a higher risk (2%-20%) of developing acute liver failure compared with those infected with HBV alone. Progression to cirrhosis is believed to be more common with HBV/HDV chronic infections.</p>	<ul style="list-style-type: none"> ▪ HBsAg or IgM anti-HBc positive and antibody to hepatitis delta virus (HDV) positive

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Hepatitis E, acute¹ 10103</p>	<p>Hepatitis E (HEV) is not endemic in the US. Typical clinical signs and symptoms of acute hepatitis E are similar to those of other types of 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 may be the result of an icteric 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 may reach 20% among those infected during the third trimester of pregnancy.</p> <p>Confirmed: A case that meets the clinical case description with supportive laboratory evidence from the CDC laboratory (positive IgM antibody, or positive PCR) OR positive PCR from a reference laboratory</p> <p>Probable: A case that meets the clinical case description with supportive laboratory evidence (positive IgM antibody); 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</p>	<ul style="list-style-type: none"> ▪ Serum aminotransferase levels greater than 2.5 times the upper limit of normal, and ▪ IgM anti-HEV from CDC laboratory or PCR positive from reference laboratory <p>Note: No FDA approved tests to diagnose HEV infection are available in the United States.</p>
<p>Hepatitis Non-ABC, acute¹ 10480</p>	<p>An acute illness with a) discrete onset of symptoms and b) jaundice or elevated serum aminotransferase levels.</p> <p>Confirmed: A case that meets the clinical case definition and is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ Serum aminotransferase levels greater than 2.5 times the upper limit of normal, and ▪ IgM anti-HAV negative, and ▪ IgM anti-HBc negative (if done) or HBsAg negative, and ▪ Anti-HCV negative

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Influenza A - novel viral infections¹ 11062</p>	<p>An illness compatible with influenza virus infection.</p> <p><i>Confirmed:</i> A case of human infection with a novel influenza A virus confirmed by CDC's influenza laboratory.</p> <p><i>Probable:</i> A case meeting the clinical criteria and epidemiologically linked to a confirmed case, but for which no laboratory testing for influenza virus infection has been performed.</p> <p>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 may be considered epidemiologically linked to a laboratory-confirmed case if at least one case in the chain of transmission is laboratory confirmed.</p> <p><i>Suspected:</i> A case meeting the clinical criteria, 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 suspected case until the confirmation process is complete.</p> <p>Note: International Health Regulations, referred to as IHR (2005) (http://www.who.int/ihr/en/) added human infections with new influenza subtypes to the list of conditions that Member States must immediately report to WHO.</p>	<ul style="list-style-type: none"> ▪ A human case of infection with an influenza A virus subtype or strain that is different from currently circulating human influenza H1 and H3 strains. ▪ Novel 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 reassortment between animal and human viruses are also novel subtypes or strains ▪ Non-human influenza viruses include avian subtypes (e.g., H5, H7, or H9 viruses), swine and other mammalian subtypes. ▪ Suspected novel subtypes and strains will be detected with methods available for detection of currently circulating human influenza viruses at state public health laboratories (e.g., real-time reverse transcriptase polymerase chain reaction [rRT-PCR]). ▪ Confirmation that an influenza A virus represents a novel virus will be performed by CDC's influenza laboratory.
<p>Influenza, human isolates^{1, 10} 11060</p>	<p>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 include: fever (usually high), headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. Stomach symptoms, such as nausea, vomiting, and diarrhea, also 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.</p> <p><i>Confirmed:</i> Case that is clinically compatible and laboratory confirmed</p> <p>Note: See Influenza-associated pediatric mortality for reporting of Influenza-associated deaths in all persons aged <18 years.</p>	<ul style="list-style-type: none"> ▪ Influenza virus isolation in tissue cell culture from respiratory specimens; ▪ Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens; ▪ Immunofluorescent antibody staining (direct or indirect) of respiratory specimens; ▪ Rapid influenza diagnostic testing of respiratory specimens; ▪ 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
<p>Influenza-associated pediatric mortality¹ 11061</p>	<p>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 or older; or after review and consultation there is an alternative agreed upon cause of death.</p> <p>Confirmed: A death meeting the clinical case definition that is laboratory confirmed</p>	<p>Laboratory testing for influenza virus infection may be done on pre- or post-mortem clinical specimens, and include identification of influenza A or B virus infections by a positive result by at least one of the following:</p> <ul style="list-style-type: none"> ▪ Influenza virus isolation in tissue cell culture from respiratory specimens; ▪ Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens; ▪ Immunofluorescent antibody staining (direct or indirect) of respiratory specimens; ▪ Rapid influenza diagnostic testing of respiratory specimens; ▪ Immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract tissue from autopsy specimens; ▪ Four-fold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera
<p>Legionellosis¹ 10490</p>	<p>Legionellosis is associated with two clinically and epidemiologically distinct illnesses: Legionnaires disease, which is characterized by fever, myalgia, cough, clinical or radiological pneumonia, and Pontiac fever, a milder illness without pneumonia.</p> <p>Confirmed: A clinically compatible case that meets at least one of the confirmatory laboratory criteria</p> <p><i>Travel-associated:</i> A case that has a history of spending at least one night away from home, either in the same country of residence or abroad, in the ten days before onset of illness</p>	<ul style="list-style-type: none"> ▪ Isolation of any <i>Legionella</i> organism from respiratory secretions, lung tissue, pleural fluid, or other normally sterile fluid, or ▪ Detection of <i>Legionella pneumophila</i> 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 <i>Legionella pneumophila</i> serogroup 1 using validated reagents

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Leishmaniasis¹ 80550</p>	<p>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 may be single or multiple, occasionally nonulcerative and diffuse. Lesions may heal spontaneously within weeks to months, or last for a year or more. In some individuals, certain 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 may occur as ulcers, papules or nodules at or near the healed original ulcer. Mode of transmission to humans is through the infective bite of female sandflies.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ 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 ▪ Serological (IFA or ELISA) may be useful for diagnosis of mucosal leishmaniasis
<p>Listeriosis¹ 10640</p>	<p>In adults, invasive disease caused by <i>Listeria monocytogenes</i> manifests most commonly as meningitis or bacteremia; infection during pregnancy may result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Other manifestations can also be observed.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>L. monocytogenes</i> from a normally sterile site, e.g., blood or cerebrospinal fluid (CSF) or, less commonly, joint, pleural, or pericardial fluid, or ▪ In the setting of miscarriage or stillbirth, isolation of <i>L. monocytogenes</i> from placental or fetal tissue, or ▪ In the setting of infection present at birth, isolation of <i>L. monocytogenes</i> from mother's blood <p>Note: See Normally Sterile Site All Listeria monocytogenes isolates must be submitted to the DSHS laboratory</p>

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<p>Lyme disease¹ 11080</p>	<p>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), which occurs in 60%-80% of patients.</p> <p>Confirmed: A case with a physician-diagnosed EM that is greater than or equal to 5 cm in size with a known exposure*, OR a case of physician-diagnosed EM of any size with laboratory evidence of infection, OR a case with at least one late manifestation** that has laboratory evidence of infection.</p> <p>*Exposure is defined as having been (less than or equal to 30 days prior to onset of EM) in wooded, brushy, or grassy areas in a county in which Lyme disease is endemic. (Currently, there are no Texas counties that are considered to be endemic for Lyme disease.) A history of tick bite is not required.</p> <p>**For purposes of surveillance, late manifestations include any of the following when an alternate explanation is not found:</p> <ul style="list-style-type: none"> ▪ 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 (may be bilateral); radiculoneuropathy; or, rarely, encephalomyelitis. Encephalomyelitis must be confirmed by demonstration of antibody production against <i>Borrelia burgdorferi</i> in the cerebrospinal fluid (CSF), evidenced by a higher titer of antibody in CSF than in serum. ▪ Cardiovascular system. Acute onset of high-grade (2nd-degree or 3rd-degree) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. <p>Probable: Any other case of physician-diagnosed Lyme disease that has laboratory evidence of infection.</p> <p>Suspected: 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.</p> <p>Note: Lyme disease reports will not be considered cases if the medical provider specifically states this is <i>not</i> a case of Lyme disease, or the only symptom listed is “tick bite” or “insect bite.”</p>	<ul style="list-style-type: none"> ▪ Positive culture for <i>Borrelia burgdorferi</i>, or ▪ Demonstration of IgM or IgG antibodies to <i>B. burgdorferi</i> in serum or cerebrospinal fluid (CSF) using a two-tiered approach - a sensitive enzyme immunoassay (EIA) or immunofluorescence assay (IFA) test, followed by Western Blot confirmatory test.

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<p>Malaria¹ 10130</p>	<p>The first symptoms of malaria (fever, chills, sweats, headaches, muscle pains, nausea and vomiting) are also found in other disease such as influenza and other common viral infections. In severe malaria (caused by <i>P. falciparum</i>), clinical findings such as confusion, coma, neurologic focal signs, severe anemia, and respiratory difficulties are more striking and may increase the suspicion index for malaria.</p> <p>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</p> <p>Suspected: Detection of <i>Plasmodium</i> species by rapid diagnostic antigen testing (RDT) without confirmation by microscopy or nucleic acid testing in any person diagnosed in the United States, regardless of whether the person experienced previous episodes of malaria while outside the country.</p> <p>Note: A subsequent attack experienced by the same person but caused by a different Plasmodium species is counted as an additional case.</p>	<ul style="list-style-type: none"> ▪ Demonstration of malaria parasites in blood films ▪ Detection of malaria parasite (<i>Plasmodium</i> species) -specific nucleic acid by PCR
<p>Measles (rubeola)⁶ 10140</p>	<p>An illness characterized by all of the following: a generalized rash lasting at least 3 days; a temperature $\geq 101.0^{\circ}$ F ($\geq 38.3^{\circ}$ C); and cough, coryza, or conjunctivitis.</p> <p>Confirmed: A case that meets the clinical case definition and is laboratory-confirmed or epidemiologically linked to a laboratory-confirmed case</p>	<ul style="list-style-type: none"> ▪ Positive serologic test for measles immunoglobulin M antibody, or ▪ Significant rise in measles 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
<p>Meningococcal disease (<i>Neisseria meningitidis</i>)¹ 10150</p>	<p>Meningococcal disease manifests most commonly as meningitis and/or meningococemia that may progress rapidly to purpura fulminans, shock, and death. However, other manifestations might be observed.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Probable: A clinically compatible case that has one of the following:</p> <ul style="list-style-type: none"> ▪ <i>N. meningitidis</i> nucleic acid detected using a validated polymerase chain reaction (PCR), obtained from a normally sterile site; or ▪ <i>N. meningitidis</i> antigen by immunohistochemistry (IHC) on formalin-fixed tissue; or ▪ <i>N. meningitidis</i> antigen by latex agglutination of CSF; or ▪ Clinical purpura fulminans in the absence of a positive blood culture; or ▪ Clinically compatible case with gram negative diplococci from a normally sterile site (e.g., blood or CSF) 	<ul style="list-style-type: none"> ▪ Isolation of <i>Neisseria meningitidis</i> from a normally sterile site ▪ Isolation of <i>Neisseria meningitidis</i> from purpuric lesions <p>Note: All Neisseria meningitidis isolates from normally sterile sites and/or purpuric lesions must be submitted to the DSHS laboratory for typing and molecular analysis.</p> <p>See Normally Sterile Site</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
MRSA 11661	See Staphylococcus aureus, coagulase-positive, methicillin-or oxacillin-resistant (MRSA)	
Mumps ⁶ 10180	<p>An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting greater than or equal to 2 days, and without other apparent cause.</p> <p>Confirmed: A case that meets the clinical case definition and is either laboratory confirmed or is epidemiologically linked to a confirmed case, or an epidemiologically- or laboratory-confirmed case that presents without parotitis but with aseptic meningitis, encephalitis, hearing loss, orchitis, oophoritis, mastitis or pancreatitis.</p> <p>Probable: A case that meets the clinical case definition, has noncontributory or no serologic or viral testing, and is not epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Isolation of mumps virus from clinical specimen, or ▪ Significant rise between acute- and convalescent-phase titers in serum mumps immunoglobulin G (IgG) antibody level by any standard serologic assay, or ▪ Positive serologic test for mumps immunoglobulin M (IgM) antibody, or ▪ Detection of mumps-virus-specific nucleic acid by PCR <p>Note: An elevated serum amylase is not confirmatory for mumps</p>
Norovirus ¹¹ 10996 Note: Outbreaks are reportable.	<p>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 may 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 may occur in as many as 30% of infections, although the role of asymptomatic infection in norovirus transmission is not well understood.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Probable: Norovirus can be established as the probable cause of an outbreak if</p> <ul style="list-style-type: none"> ▪ 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. 	<ul style="list-style-type: none"> ▪ 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. ▪ Detection of norovirus by direct and immune electron microscopy of fecal specimens ▪ Fourfold increase of norovirus antibodies in acute- and convalescent-phase blood samples <p>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.</p>

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<p>Pertussis⁵ 10190</p>	<p>For endemic or sporadic cases, a cough illness lasting at least 14 days AND at least one of the following additional symptoms and without other apparent cause (as reported by a health professional):</p> <ul style="list-style-type: none"> ▪ Paroxysmal coughing, or ▪ Inspiratory "whoop," or ▪ Post-tussive vomiting <p>In outbreak settings of 3 or more cases including at least 1 that is laboratory confirmed (i.e. meets the confirmed case definition in addition to being either PCR or culture positive), the case definition used can be modified to a cough illness lasting at least 14 days.</p> <p>Confirmed: Must meet one of the following criteria:</p> <ul style="list-style-type: none"> ▪ 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. (This does not include linkage to a patient with a positive laboratory result that does not meet the clinical criteria, i.e., classified as Not a Case.) <p>Probable: Must meet all of the following criteria:</p> <ul style="list-style-type: none"> ▪ Meets the clinical case definition, and ▪ Is not laboratory confirmed (not tested or tests are negative), and ▪ Is not epidemiologically linked to a laboratory-confirmed case 	<ul style="list-style-type: none"> ▪ Isolation (culture) of <i>Bordetella pertussis</i> from clinical specimen or ▪ Positive polymerase chain reaction (PCR) assay for <i>B. pertussis</i> <p>Note: Because <i>B. pertussis</i> 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 IgG or IgM) are NOT considered confirmatory for pertussis.</p>
<p>Plague¹ 10440</p>	<p>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:</p> <ul style="list-style-type: none"> ▪ Regional lymphadenitis (bubonic plague) ▪ Septicemia without an evident bubo (septicemic plague) ▪ Plague pneumonia, resulting from hematogenous spread in bubonic or septicemic cases (secondary pneumonic plague) or inhalation of infectious droplets (primary pneumonic plague) ▪ Pharyngitis and cervical lymphadenitis resulting from exposure to larger infectious droplets or ingestion of infected tissues (pharyngeal plague) <p>Confirmed: A clinically compatible case with confirmatory laboratory result:</p> <p>Probable: A clinically compatible case with a presumptive laboratory result</p> <ul style="list-style-type: none"> ▪ Elevated serum antibody titer(s) to <i>Yersinia pestis</i> fraction 1 (F1) antigen (without documented fourfold or greater change) in a patient with no history of plague vaccination, or ▪ Detection of F1 antigen in a clinical specimen by fluorescent assay <p>Suspected: A clinically compatible case without presumptive or confirmatory laboratory results</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Yersinia pestis</i> from a clinical specimen, or ▪ Fourfold or greater change in serum antibody titer to <i>Y. pestis</i> F1 antigen <p>Note: See Yersiniosis for other <i>Yersinia</i> isolates All Yersinia pestis isolates must be submitted to the DSHS laboratory</p>

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<p>Poliomyelitis, paralytic⁶ 10410</p>	<p>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</p> <p>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</p> <p>Probable*: A case that meets the clinical case definition</p> <p>*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.</p>	<ul style="list-style-type: none"> Isolation of wild-type poliovirus type 1, 2, or 3 from a clinical specimen (stool or CSF)
<p>Poliovirus infection, nonparalytic¹ 10405</p>	<p>Most poliovirus infections are asymptomatic or cause mild febrile disease. Poliovirus infections occasionally cause aseptic meningitis and one out of 200 infections from poliovirus type 1 results in paralytic poliomyelitis, characterized by acute onset of flaccid paralysis that is typically asymmetric and associated with a prodromal fever. Poliovirus is spread through fecal material, oral secretions, some aerosols and fomites.</p> <p>Confirmed: Any person without symptoms of paralytic poliomyelitis in whom a poliovirus isolate was identified in an appropriate clinical specimen, with confirmatory typing and sequencing performed by the CDC Poliovirus Laboratory, as needed.</p> <p>Note: Isolation of polioviruses from persons with acute paralytic poliomyelitis should continue to be reported as “paralytic poliomyelitis.”</p>	<p>Polioviruses are among the most rapidly evolving of all RNA viruses. During community circulation, circulating vaccine-derived polioviruses (cVDPVs) often recombine with other species C enteroviruses. Because polioviruses accumulate nucleotide changes at a constant rate of mutation (approximately 1% per year), the time of replication can be inferred from the degree of divergence. Poliovirus isolates are characterized according to their genetic properties and all vaccine-related poliovirus isolates should be evaluated by genomic sequencing to determine degree of divergence from the parent Sabin strains. In particular, sequencing should be performed on the virus capsid protein coding region (VP1) of the poliovirus genome to identify the virus as VDPV, and analysis of recombination with other polioviruses or species C enteroviruses should be determined.</p>
<p>Powassan virus</p>	<p>See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>	<p>See Lab Confirmation Tests for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>
<p>Primary Amebic Meningoencephalitis (PAM)⁷ 80750</p>	<p>Primary amebic meningoencephalitis (PAM) is usually caused by <i>Naegleria fowleri</i> and occurs in healthy children and adults who usually have had recent fresh water exposure. The free-living ameboflagellate invades the brain and meninges via the nasal mucosa and olfactory nerve; it causes a typical syndrome of fulminate pyogenic meningoencephalitis (primary amoebic meningoencephalitis with severe frontal headache, occasional olfactory hallucinations, nausea, vomiting, high fever, nuchal rigidity, and somnolence) and death, usually within 10 days.</p> <p>Confirmed: Clinical symptoms of meningoencephalitis and laboratory confirmation</p> <p>Note: See also Granulomatous amebic meningoencephalitis (GAE)</p>	<ul style="list-style-type: none"> Identification of <i>Naegleria fowleri</i>, or less frequently <i>Acanthamoeba</i>, or <i>Balamuthia mandrillaris</i> organisms

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<p>Q Fever, Acute¹ 10257</p>	<p>Q fever is a zoonotic disease caused by the rickettsia <i>Coxiella burnetii</i>. Exposure to Q fever is usually via aerosol and the source may be unknown (especially for chronic infection). Exposure may be associated with goats, sheep, or other livestock, but direct contact with animals is not required, and variable incubation periods may be dose dependent. Acute infection is characterized by acute onset of fever accompanied by rigors, myalgia, malaise, and severe retrobulbar headache. Symptoms may include fatigue, night sweats, dyspnea, confusion, nausea, diarrhea, abdominal pain, vomiting, non-productive cough, or chest pain. Severe disease can include acute hepatitis, atypical pneumonia, and meningoencephalitis. Pregnant women are at risk for fetal death and abortion. Clinical laboratory findings may include elevated liver enzyme levels, leukocytosis, and thrombocytopenia. Asymptomatic infections may also occur.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed.</p> <p>Probable: A clinically compatible case with a single supportive IgG-specific antibody titer to <i>C. burnetii</i> Phase II antigen of $\geq 1:128$ by IFA, OR serological evidence of elevated IgG or IgM antibody titer to <i>C. burnetii</i> by ELISA, dot-ELISA, or LA.</p>	<ul style="list-style-type: none"> ▪ Serological evidence of a fourfold change in IgG-specific antibody titer to <i>C. burnetii</i> 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 <i>C. burnetii</i> DNA in a clinical specimen by polymerase chain reaction (PCR) assay, or ▪ Demonstration of <i>C. burnetii</i> antigen in a clinical specimen by immunohistochemical (IHC) methods, or ▪ Isolation of <i>C. burnetii</i> from a clinical specimen in cell culture
<p>Q Fever, Chronic¹ 10258</p>	<p>Chronic Q fever is characterized by a <i>Coxiella burnetii</i> infection that persists for more than 6 months. Potentially fatal endocarditis may 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.</p> <p>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 compromised immune system).</p> <p>Confirmed: A clinically compatible (meets clinical evidence criteria) case of chronic illness that is laboratory confirmed.</p> <p>Probable: A clinically compatible case of chronic illness with an antibody titer to <i>C. burnetii</i> Phase I IgG antigen that is $\geq 1:128$ and $< 1:800$ by IFA.</p>	<ul style="list-style-type: none"> ▪ Serological evidence of IgG antibody to <i>C. burnetii</i> Phase I antigen of $\geq 1:800$ by IFA (while Phase II IgG titer will be elevated, Phase I titer is higher than Phase II), or ▪ Detection of <i>C. burnetii</i> DNA in a clinical specimen by polymerase chain reaction (PCR) assay, or ▪ Demonstration of <i>C. burnetii</i> antigen in a clinical specimen by immunohistochemical (IHC) methods, or ▪ Isolation of <i>C. burnetii</i> from a clinical specimen in cell culture

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<p>Rabies, animal¹ 10340</p>	<p>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.</p> <p>Medical authorities distinguish on the basis of clinical signs, between "furious" and "dumb" rabies. 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 may 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 may 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.</p> <p>Confirmed: A case that is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ A positive direct fluorescent rabies antibody test (preferably performed on central nervous system tissue) ▪ Isolation of rabies virus (in cell culture or in a laboratory animal)
<p>Rabies, human¹ 10460</p>	<p>Rabies is an acute encephalomyelitis that almost always progresses to coma or death within 10 days after the first symptom.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Note: Laboratory confirmation by all of the methods listed under "Lab Confirmation Tests" is strongly recommended.</p>	<ul style="list-style-type: none"> ▪ Detection by direct fluorescent antibody of rabies viral antigens in a clinical specimen (preferably the brain or the nerves surrounding hair follicles in the nape of the neck), or ▪ Isolation (in cell culture or in a laboratory animal) of rabies virus from saliva, cerebrospinal fluid (CSF), or central nervous system tissue, or ▪ Identification of a rabies-neutralizing antibody titer greater than or equal to 5 (complete neutralization) in CSF ▪ Identification of a rabies-neutralizing antibody titer greater than or equal to 5 (complete neutralization) in the serum of an unvaccinated person

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
Relapsing fever⁷ 10845	<p>A systemic spirochetal disease in which periods of fever lasting 2-9 days alternate with afebrile periods of 2-4 days; the number of relapses varies from 1 to 10 or more. Each febrile period terminates by crisis. The total duration of the louseborne disease averages 13-16 days; the tickborne disease usually lasts longer. Transitory petechial rashes are common during the initial febrile period. The overall case-fatality rate in untreated cases is between 2% and 10%.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ Demonstration of the infectious agent (<i>Borrelia</i> spp) in dark-field preparations of fresh blood or stained thick or thin blood films, or ▪ Isolation of <i>Borrelia</i> spp by <ul style="list-style-type: none"> ○ Intraperitoneal inoculation of laboratory rats or mice with blood taken during the febrile period, or ○ Blood culture in special media
Rocky Mountain spotted fever¹ 10250	<p>See Spotted Fever Rickettsiosis</p>	
Rubella⁶ 10200	<p>An illness that has all the following characteristics: Acute onset of generalized maculopapular rash; temperature >99°F (37.2°C), if measured; and arthralgia/arthritis, lymphadenopathy, or conjunctivitis.</p> <p>Confirmed: A case that is clinically compatible and is laboratory confirmed or epidemiologically linked to a laboratory-confirmed case</p>	<ul style="list-style-type: none"> ▪ 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 immunoglobulin M (IgM) antibody, or ▪ Detection of rubella-virus-specific nucleic acid by PCR
Rubella, congenital syndrome⁶ 10370	<p>An illness of newborns resulting from rubella infection <i>in utero</i> and characterized by signs or symptoms from the following categories:</p> <p>(a) Cataracts/congenital glaucoma, congenital heart disease (most commonly patent ductus arteriosus or peripheral pulmonary artery stenosis), hearing loss, or pigmentary retinopathy</p> <p>(b) Purpura, hepatosplenomegaly, jaundice, microcephaly, developmental delay, meingoencephalitis, or radiolucent bone disease</p> <p>Confirmed: A clinically consistent case that is laboratory confirmed</p> <p>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</p>	<ul style="list-style-type: none"> ▪ 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 equine encephalitis virus (SLE)	<p>See Case Definition/Case Classification for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>	<p>See Lab Confirmation Tests for Arbovirus, Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive</p>

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<p>Salmonellosis¹ 11000</p>	<p>An illness of variable severity commonly manifested by diarrhea, abdominal pain, nausea, and sometimes vomiting. Asymptomatic infections may occur, and the organism may cause extraintestinal infections.</p> <p>Confirmed: A case that meets the laboratory criteria for diagnosis; when available, O and H antigen serotype characterization should be reported</p> <p>Probable: A clinically compatible case that is epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Salmonella</i> (except <i>S. Typhi</i>)* from a clinical specimen ▪ *S. Typhi is reportable as Typhoid Fever
<p>Severe acute respiratory syndrome (SARS)^{12,13} 88730</p>	<p>Severe acute respiratory syndrome (SARS) is a viral respiratory illness caused by a coronavirus, called SARS-associated coronavirus (SARS-CoV). In general, SARS begins with a high fever (temperature greater than 100.4°F [$>38.0^{\circ}\text{C}$]). Other symptoms may include headache, an overall feeling of discomfort, and body aches. Some people also have mild respiratory symptoms at the outset. About 10 percent to 20 percent of patients have diarrhea. After 2 to 7 days, SARS patients may develop a dry cough. Most patients develop pneumonia.</p> <p>Clinical Criteria: Early illness: Presence of two or more of the following features: fever (might be subjective), chills, rigors, myalgia, headache, diarrhea, sore throat, rhinorrhea. Mild-to-moderate respiratory illness: Temperature of $>100.4^{\circ}\text{F}$ ($>38^{\circ}\text{C}$) and one or more clinical findings of lower respiratory illness (e.g., cough, shortness of breath, difficulty breathing). Severe respiratory illness: Meets clinical criteria of mild-to-moderate respiratory illness, AND one or more of the following findings: radiographic evidence of pneumonia, OR acute respiratory distress syndrome, OR autopsy findings consistent with pneumonia or acute respiratory distress syndrome without an identifiable cause.</p> <p>Confirmed: A person who has a clinically compatible illness (i.e., early, mild-to-moderate, or severe) that is laboratory confirmed</p> <p>Probable: A person who meets the clinical criteria for severe respiratory illness and the epidemiologic criteria for likely exposure to SARS-CoV (Likely exposure to SARS-CoV: One or more of the following exposures in the 10 days before onset of symptoms: close contact with a confirmed case of SARS-CoV disease, or close contact with a person with mild-to-moderate or severe respiratory illness for whom a chain of transmission can be linked to a confirmed case of SARS-CoV disease in the 10 days before onset of symptoms)</p>	<ul style="list-style-type: none"> ▪ Detection of any of the following by a validated test, with confirmation in a reference laboratory: <ul style="list-style-type: none"> ○ Serum antibodies to SARS-CoV in a single serum specimen, or ○ A four-fold or greater increase in SARS-CoV antibody titer between acute- and convalescent-phase serum specimens tested in parallel, or ○ Negative SARS-CoV antibody test result on acute-phase serum and positive SARS-CoV antibody test result on convalescent-phase serum tested in parallel, or ▪ Isolation in cell culture of SARS-CoV from a clinical specimen, with confirmation using a test validated by CDC, or ▪ Detection of SARS-CoV RNA by RT-PCR validated by CDC, with confirmation in a reference laboratory, from <ul style="list-style-type: none"> ○ Two clinical specimens from different sources, or ○ Two clinical specimens collected from the same source on two different days
<p>Shiga toxin-producing <i>Escherichia coli</i> (STEC)¹ 11563</p>	<p>See <i>Escherichia coli</i>, shiga-toxin producing (STEC)</p>	

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Shigellosis¹ 11010</p>	<p>An illness of variable severity characterized by diarrhea, fever, nausea, cramps, and tenesmus. Asymptomatic infections may occur.</p> <p>Confirmed: A case that meets the laboratory criteria for diagnosis. When available, O antigen serotype characterization should be reported.</p> <p>Probable: A clinically compatible case that is epidemiologically linked to a confirmed case</p>	<p>Isolation of <i>Shigella</i> from a clinical specimen</p>
<p>Smallpox^{1,14} 11800</p>	<p>An illness with acute onset of fever $\geq 101^{\circ}$ F ($\geq 38.3^{\circ}$ C) followed by a rash characterized by firm, deep seated vesicles or pustules in the same stage of development without other apparent cause.</p> <p>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</p> <p>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 that has an epidemiological link to a confirmed case of smallpox. Examples of clinical presentations of smallpox that would not meet the ordinary type (pre-event) clinical case definition are: a) hemorrhagic type, b) flat type, and c) variola sine eruptione. See Guide A: Smallpox Surveillance and Case Reporting; Contact Identification, Tracing, Vaccination, and Surveillance; and Epidemiologic Investigation for full descriptions of atypical smallpox presentations.</p> <p>Suspected: A case with a generalized, acute vesicular or pustular rash illness with fever preceding development of rash by 1-4 days</p> <p>Exclusion Criteria: A case may be excluded as a Suspected or probable smallpox case if an alternative diagnosis fully explains the illness or appropriate clinical specimens are negative for laboratory criteria for smallpox.</p> <p>Note: The smallpox case definition is to be used only during post-event surveillance. The case definition described in Guide A of the Smallpox Response Plan and Guidelines (Version 3) on the CDC bioterrorism preparedness website (URL: http://www.bt.cdc.gov/agent/smallpox/response-plan/index.asp) includes different criteria for a suspected 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 "Suspected" case is defined as: "a case with febrile rash illness with fever preceding the development of rash by 1-4 days."</p>	<ul style="list-style-type: none"> ▪ 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) <p>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.</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Spotted Fever Rickettsiosis <u>10250</u></p> <p>Condition code 10250 was previously labeled as Rocky Mountain Spotted Fever</p>	<p>Spotted fever rickettsioses are a group of tickborne infections caused by some members of the genus <i>Rickettsia</i>. Rocky Mountain spotted fever (RMSF) is an illness caused by <i>Rickettsia rickettsii</i>, a bacterial pathogen transmitted to humans through contact with ticks. Disease onset averages one week following a tick bite. Age specific illness is highest for children and older adults. Illness is characterized by acute onset of fever, and may be accompanied by headache, malaise, myalgia, nausea/vomiting, or neurologic signs; a macular or maculopapular rash appears 4-7 days following onset in many (~80%) patients, often present on the palms and soles. RMSF may 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 <i>Rickettsia</i> species, including infection with <i>Rickettsia parkeri</i>, has also been reported. In these patients, clinical presentation appears similar to, but may be milder than, RMSF; the presence of an eschar at the site of tick attachment has been reported for some other spotted fever rickettsioses.</p> <p><i>Clinical evidence:</i> Any reported acute onset of fever and one or more of the following: rash, eschar, headache, myalgia, anemia, thrombocytopenia, or any hepatic transaminase elevation.</p> <p>Confirmed: Clinically compatible case (meets clinical evidence criteria) that is laboratory confirmed.</p> <p>Probable: Clinically compatible case (meets clinical evidence criteria) with serological evidence of elevated IgG or IgM antibody reactive with <i>R. rickettsii</i> or other spotted fever group antigen* by IFA, enzyme-linked immunosorbent assay (ELISA), dot-ELISA, or latex agglutination (LA). DSHS uses IFA IgG testing cutoff of >1:64 for routine diagnostic testing.</p>	<ul style="list-style-type: none"> ▪ Serological evidence of an elevation (fourfold change) in immunoglobulin G (IgG)-specific antibody titer reactive with <i>Rickettsia rickettsii</i> or other spotted fever group 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 indirect immunofluorescence assay (IFA), or ▪ Detection of <i>R. rickettsii</i> or other spotted fever group DNA* in a clinical specimen by the polymerase chain reaction (PCR assay), or ▪ Demonstration of spotted fever group antigen* in a biopsy/autopsy specimen by IHC, or ▪ Isolation of <i>R. rickettsii</i> or other spotted fever group rickettsia* from a clinical specimen in cell culture <p>*Note: Spotted fever group species included are <i>R. aeschlimannii</i>, <i>R. africae</i>, <i>R. akari</i>, <i>R. australis</i>, <i>R. conorii</i>, <i>R. heilongjiangensis</i>, <i>R. helvetica</i>, <i>R. honei</i>, <i>R. japonica</i>, <i>R. marmionii</i>, <i>R. massiliae</i>, <i>R. parkeri</i>, <i>R. rickettsii</i>, <i>R. sibirica</i>, <i>R. sibirica mongolotimonae</i>, <i>R. slovaca</i>. Spotted fever group species <i>R. felis</i> and <i>R. akari</i> are excluded from this condition. See Rickettsia Note</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p><i>Staphylococcus aureus</i>, coagulase-positive, methicillin-or oxacillin-resistant (MRSA)¹⁵ 11661</p>	<p>Methicillin-resistant <i>Staphylococcus Aureus</i> (MRSA) is a type of staph bacteria 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 may 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). http://www.cdc.gov/mrsa/symptoms/index.html Confirmed: A case that is laboratory confirmed Note: For epidemiological purposes, it is useful to classify MRSA cases based on the origin of the infection. (Klevens, et al. JAMA. 2007. 298(15): 1763-1771)</p> <ul style="list-style-type: none"> ▪ Healthcare-associated, hospital-onset: Cases with positive culture obtained >48 hours after hospital admission (may also have risk factors) ▪ Healthcare-associated, community-onset: Cases identified <48 hours after admission with at least 1 of the following risk factors: invasive device at time of admission; history of MRSA infection or colonization; history of surgery, hospitalization, dialysis, or residence in a long term care facility in 12 months preceding culture. ▪ Community-associated: Cases with community-onset and none of the above risk factors documented. 	<ul style="list-style-type: none"> ▪ Isolation of <i>Staphylococcus aureus</i> that shows resistance to oxacillin or ceftiofuran by a reliable susceptibility test methodology from a clinical specimen. Resistance can be determined by <ul style="list-style-type: none"> ○ ceftiofuran or oxacillin disk screen test, ○ 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). ▪ Nucleic acid amplification tests, such as the polymerase chain reaction (PCR), can be used to detect the <i>mecA</i> gene, which mediates oxacillin resistance in staphylococci. <p>Note: Methicillin is no longer commercially available in the United States. Oxacillin maintains its activity during storage better than methicillin and is more likely to detect heteroresistant strains. However, ceftiofuran is an even better inducer of the <i>mecA</i> gene and disk diffusion tests using ceftiofuran give clearer endpoints and are easier to read than tests with oxacillin. http://www.cdc.gov/mrsa/lab/lab-detection.html</p>
<p><i>Staphylococcus aureus</i>, coagulase-positive, vancomycin resistant (VRSA)¹ 11665</p>	<p><i>Staphylococcus aureus</i> 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 clinically compatible case of vancomycin-resistant <i>Staphylococcus aureus</i> that is laboratory-confirmed (MIC: ≥ 16 µg/ml) Note: Texas has never identified a VRSA and as of September 2010, only 12 cases have been identified in the USA since 2002. Thus, identification of a VRSA is highly unusual and should be treated as a highly unusual event with immediate notification of public health, immediate submission of the isolate to the DSHS lab, and institution of appropriate control measures.</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Staphylococcus aureus</i> from any body site, and ▪ High-level resistance of the <i>Staphylococcus aureus</i> isolate to vancomycin (MIC: ≥16 µg/ml), detected and defined according to CLSI approved standards and recommendations http://www.cdc.gov/ncidod/dhqp/ar_visavrsa_labFAQ.html <p>Note: All Staphylococcus aureus isolates with a vancomycin MIC greater than 2 µg/mL must be submitted to the DSHS laboratory</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p><i>Staphylococcus aureus</i>, vancomycin intermediate (VISA)¹ 11663</p>	<p><i>Staphylococcus aureus</i> 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.</p> <p>Confirmed: A clinically compatible case of vancomycin-resistant <i>Staphylococcus aureus</i> that is laboratory-confirmed (MIC: 4-8 µg/ml)</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Staphylococcus aureus</i> from any body site, and ▪ Intermediate-level resistance (MIC: 4-8 µg/ml) of the <i>Staphylococcus aureus</i> isolate to vancomycin, detected and defined according to CLSI approved standards and recommendations <p>http://www.cdc.gov/ncidod/dhqp/ar_visavrsa_labFAQ.html</p> <p>Note: All Staphylococcus aureus isolates with a vancomycin MIC greater than 2 µg/mL must be submitted to the DSHS laboratory</p>
<p><i>Streptococcus</i>, Group A, invasive (<i>Streptococcus pyogenes</i>) 11710</p>	<p>See Group A Streptococcus, invasive (GAS)</p>	
<p><i>Streptococcus</i>, Group B, invasive (<i>Streptococcus agalactiae</i>) 11715</p>	<p>See Group B Streptococcus, invasive</p>	
<p><i>Streptococcus</i>, other, invasive, beta-hemolytic (non-group A, non-group B) 11716</p>	<p>Pathogenic non-group A, non-group B, beta-hemolytic <i>Streptococcus</i> consists primarily of group C and group G <i>Streptococcus</i>. (See Streptococcus Classification.) <i>Streptococcus</i> group C can be found as normal human flora. It has also been associated with various infections, including sinusitis, pharyngitis, meningitis, pneumonia, intra-abdominal abscesses, endocarditis, osteomyelitis, toxic shock syndrome-like illness, and primary bacteremia. Large colony-forming group G β-hemolytic streptococci (GGS) were first isolated in patients with puerperal sepsis. GGS are known to be commensals and pathogens in domestic animals. In humans, they may colonize the pharynx, skin, gastrointestinal and female genital tract. In recent years, GGS have been reported with increasing frequency as the cause of a variety of human infections, such as pharyngitis, cellulitis, meningitis, endocarditis, and sepsis. Bacteremia attributable to GGS has been related to underlying conditions, such as alcoholism, diabetes mellitus, malignancy, intravenous substance abuse, or breakdown of the skin.</p> <p>Confirmed: A case that is laboratory confirmed</p> <p>Note: Non-group A/non-group B/non-<i>S. pneumoniae</i> <i>Streptococcus</i> is not reportable unless it results in meningitis which should be reported as bacterial meningitis, other.</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Streptococcus</i> other than <i>S. pyogenes</i> (group A), <i>S. agalactiae</i> (group B), or <i>S. pneumoniae</i> by a culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid) <p>Note: See Normally Sterile Site</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p><i>Streptococcus pneumoniae</i>, invasive, drug-resistant¹ 11720</p> <p>Discontinued code (Enter all invasive <i>Strep pneumo</i> cases under 11723- see below)</p>	<p><i>Streptococcus pneumoniae</i> causes many clinical syndromes, depending on the site of infection (e.g., pneumonia, bacteremia, or meningitis).</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Probable: A clinically compatible case caused by laboratory-confirmed culture of <i>S. pneumoniae</i> identified as "nonsusceptible" (i.e., an oxacillin zone size of less than 20 mm) when oxacillin screening is the only method of antimicrobial susceptibility testing performed</p> <p>Note: Enter all invasive <i>Streptococcus pneumoniae</i> cases as Streptococcus pneumoniae, invasive disease, code 11723. Attach any lab reports indicating antibiotic resistance.</p>	<ul style="list-style-type: none"> Isolation of <i>S. pneumoniae</i> from a normally sterile site, that intermediate- or high-level resistance to at least one antimicrobial agent currently approved for use in treating pneumococcal infection) The National Committee for Clinical Laboratory Standards recommends that oxacillin resistant isolates undergo further susceptibility testing by using a quantitative MIC method acceptable for penicillin, extended-spectrum cephalosporins, and other drugs as clinically indicated. <p>Note: See Normally Sterile Site and Streptococcus Classification</p>
<p><i>Streptococcus pneumoniae</i>, invasive disease (IPD)¹ 11723</p> <p>Note- previously entered as code 11717*</p>	<p><i>Streptococcus pneumoniae</i> causes many clinical syndromes, depending on the site of infection (e.g., pneumonia, bacteremia, or meningitis).</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>*Note: In Texas, since 2003, invasive <i>Streptococcus pneumoniae</i> has been reportable for all ages and cases were entered in NBS utilizing code 11717.</p> <p>The code changed in 2010, when invasive <i>Streptococcus pneumoniae</i> became a nationally reportable condition for all ages. Code 11723 was added by CDC for '<i>Streptococcus pneumoniae</i>, invasive disease (IPD) (all ages)' to replace event code 11720, '<i>Streptococcus pneumoniae</i>, invasive, drug-resistant (DRSP), all age groups' and code 11717, '<i>Streptococcus pneumoniae</i>, invasive disease non-drug resistant (IPD), in children less than 5 years of age'.</p>	<ul style="list-style-type: none"> Isolation of <i>S. pneumoniae</i> from a normally sterile site <p>Note: See Normally Sterile Site and Streptococcus Classification</p>
<p><i>Taenia solium</i> and undifferentiated <i>Taenia</i> infection⁵ (Also see Cysticercosis) 12031</p>	<p>Taeniasis is an intestinal infection with the adult stage of the pork (<i>Taenia solium</i>) or beef (<i>Taenia saginata</i>) tapeworms. Clinical manifestations of infection with adult worm, if present, are variable and may 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 <i>T. solium</i> may cause fatal cysticercosis.</p> <p>Note: Also see Cysticercosis</p> <p>Confirmed: Laboratory confirmation of the presence of <i>T. solium</i> proglottids, eggs, or antigens in a clinical specimen</p> <p>Probable: Laboratory confirmation of the presence of undifferentiated <i>Taenia</i> spp. tapeworm proglottids or eggs in a clinical specimen.</p>	<p>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. Eggs of <i>T. Solium</i> and <i>T. saginata</i> cannot be differentiated morphologically. Specific diagnosis is based on the morphology of the scolex (head) and/or gravid proglottids.</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Tetanus⁶ 10210</p>	<p>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.</p> <p>Probable: A clinically compatible case, as reported by a health-care professional</p>	
<p>Streptococcal Toxic-shock syndrome¹ 11700</p>	<p>Streptococcal toxic-shock syndrome (STSS) is a severe illness associated with invasive or noninvasive group A streptococcal (<i>Streptococcus pyogenes</i>) 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%.</p> <p>An illness with the following clinical manifestations</p> <ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> ▪ <i>Renal Impairment:</i> 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 ▪ <i>Coagulopathy:</i> Platelets less than or equal to 100,000/mm³ (less than or equal to 100 x 10⁶/L) or disseminated intravascular coagulation, defined by prolonged clotting times, low fibrinogen level, and the presence of fibrin degradation products ▪ <i>Liver Involvement:</i> 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 ▪ <i>Acute Respiratory Distress Syndrome:</i> 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. <p><i>Confirmed:</i> A case that meets the clinical case definition and is laboratory confirmed.</p> <p><i>Probable:</i> A case that meets the clinical case definition in the absence of another identified etiology and with isolation of group A <i>Streptococcus</i> from a nonsterile site</p> <p>Note: Enter all invasive group A <i>Streptococcus</i> cases as group A Streptococcus, invasive disease, code 11710.</p>	<ul style="list-style-type: none"> ▪ Isolation of group A <i>Streptococcus</i> (<i>S. pyogenes</i>) (GAS) from a normally sterile site

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Toxic-shock syndrome, other than Streptococcal¹ (Formerly named Toxic shock syndrome, Staphylococcal)</p> <p>10520</p>	<p>An illness with the following clinical manifestations:</p> <ul style="list-style-type: none"> ▪ Fever: temperature greater than or equal to 102.0°F (38.9°C) ▪ Rash: diffuse macular erythroderma ▪ Desquamation: 1-2 weeks after onset of illness, particularly on the palms and soles ▪ Hypotension: systolic blood pressure less than or equal to 90 mm Hg for adults or less than fifth percentile by age for children aged less than 16 years; orthostatic drop in diastolic blood pressure greater than or equal to 15 mm Hg from lying or sitting to standing, orthostatic syncope, or orthostatic dizziness ▪ Multisystem involvement (three or more of the following) <ul style="list-style-type: none"> ○ Gastrointestinal: vomiting or diarrhea at onset of illness ○ Muscular: severe myalgia or creatine phosphokinase level at least twice the upper limit of normal ○ Mucous membrane: vaginal, oropharyngeal, or conjunctival hyperemia; ○ Renal: blood urea nitrogen or creatinine at least twice the upper limit of normal for laboratory or urinary sediment with pyuria (greater than or equal to 5 leukocytes per high-power field) in the absence of urinary tract infection ○ Hepatic: total bilirubin, alanine aminotransferase enzyme, or aspartate aminotransferase enzyme levels at least twice the upper limit of normal for laboratory ○ Hematologic: platelets less than 100,000/mm³ ○ Central nervous system: disorientation or alterations in consciousness without focal neurologic signs when fever and hypotension are absent <p><i>Confirmed:</i> A case which meets the laboratory criteria and in which all five of the clinical findings described above are present, including desquamation, unless the patient dies before desquamation occurs</p> <p><i>Probable:</i> A case which meets the laboratory criteria and in which four of the five clinical findings described above are present</p>	<ul style="list-style-type: none"> ▪ If obtained, negative result for blood, throat, or cerebrospinal fluid cultures (except blood culture may be positive for <i>Staphylococcus aureus</i>) ▪ No rise in titer to Rocky Mountain spotted fever, leptospirosis, or measles
<p>Trichinellosis (Trichinosis)¹</p> <p>10270</p>	<p>A disease caused by ingestion of <i>Trichinella</i> larvae. The disease has variable clinical manifestations. Common signs and symptoms among symptomatic persons include eosinophilia fever, myalgia, and periorbital edema.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p>	<ul style="list-style-type: none"> ▪ Demonstration of <i>Trichinella</i> larvae in tissue obtained by muscle biopsy, or ▪ Positive serologic test for <i>Trichinella</i>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Tularemia¹ 10230</p>	<p>Clinical diagnosis is supported by evidence or history of a tick or deerfly bite, exposure to tissues of a mammalian host of <i>Francisella tularensis</i>, or exposure to potentially contaminated water. Illness is characterized by several distinct forms, including the following:</p> <ul style="list-style-type: none"> ▪ 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 ▪ Intestinal: intestinal pain, vomiting, and diarrhea ▪ Pneumonic: primary pleuropulmonary disease ▪ Typhoidal: febrile illness without early localizing signs and symptoms <p>Confirmed: A clinically compatible case with confirmatory laboratory results</p> <p>Probable: A clinically compatible case with laboratory results indicative of presumptive infection:</p> <ul style="list-style-type: none"> ▪ Elevated serum antibody titer(s) to <i>F. tularensis</i> antigen (without documented fourfold or greater change) in a patient with no history of tularemia vaccination, or ▪ Detection of <i>F. tularensis</i> in a clinical specimen by fluorescent assay 	<ul style="list-style-type: none"> ▪ Isolation of <i>F. tularensis</i> in a clinical specimen, or ▪ Fourfold or greater change in serum antibody titer to <i>F. tularensis</i> antigen <p>Note: All Francisella tularensis isolates must be submitted to the DSHS laboratory</p>
<p>Typhoid fever (caused by <i>Salmonella</i> Typhi)¹ 10240</p>	<p>An illness caused by <i>Salmonella</i> 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 <i>S. Typhi</i> may be prolonged.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Probable: A clinically compatible case that is epidemiologically linked to a confirmed case in an outbreak</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>S. Typhi</i> from blood, stool, or other clinical specimen <p>Note: See Salmonellosis for other <i>Salmonella</i> isolates</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Typhus fever, (endemic fleaborne, Murine)⁷ 10260</p> <p>See Rickettsia Note</p>	<p>Murine typhus is a rickettsial disease, whose course resembles that of louseborne typhus, but is milder. Variable onset, often sudden and marked by headache, chills, prostration, fever and general pains. A macular eruption appears on the fifth to sixth day, initially on the upper trunk, followed by spread to the entire body, but usually not to the face, palms or soles. Toxemia is usually pronounced, and the disease terminates by rapid defervescence after about 2 weeks of fever. The case-fatality rate for all ages is less than 1% but increases with age. Absence of louse infestation, geographic and seasonal distribution and sporadic occurrence of the disease help to differentiate it from louseborne typhus.</p> <p>Confirmed: Clinically compatible case that is laboratory confirmed</p> <p>Probable: Clinically compatible case with supportive laboratory results:</p> <ul style="list-style-type: none"> ▪ IFA serologic titer of >1:64, or ▪ A single CF of ≥ 16, or ▪ Other supportive serology (single titer >1:64 by an LA, IHA, or MA test) 	<ul style="list-style-type: none"> ▪ Fourfold or greater rise in antibody titer to <i>Rickettsia typhi</i> or <i>Rickettsia felis</i> antigen by IFA, complement fixation (CF), latex agglutination (LA), microagglutination (MA), or indirect hemagglutination antibody (IHA) test in acute – and convalescent – phase specimens ideally taken at least 3 weeks apart, or ▪ Positive PCR assay to <i>R. typhi</i> or <i>R. felis</i>, or ▪ Demonstration of positive <i>R. typhi</i> or <i>R. felis</i> IF of skin lesion (biopsy) or organ tissue (autopsy), or ▪ Isolation of <i>R. typhi</i> or <i>R. felis</i> from clinical specimen ▪ In South Texas areas where murine typhus is endemic, clinically compatible cases with <i>R. typhi</i> or <i>R. felis</i> IgM titers of $\geq 1:1024$ are considered confirmed cases <p>Note: The IF test is most commonly used for laboratory confirmation, but it does not discriminate between louse-borne and murine typhus unless the sera are differentially absorbed with the respective rickettsial antigen prior to testing.</p>
<p>Typhus fever, (epidemic louseborne, <i>R. prowazekii</i>)⁷ 10265</p> <p>See Rickettsia Note</p>	<p>A rickettsial disease with variable onset; often sudden and marked by headache, chills, prostration, fever and general pains. A macular eruption appears on the 5th to 6th day, initially on the upper trunk, followed by spread to the entire body, but usually not to the face, palms or soles. The eruption is often difficult to observe on black skin. Toxaemia is usually pronounced, and the disease terminates by rapid defervescence after about 2 weeks of fever.</p> <p>Confirmed: Clinically compatible case that is laboratory confirmed</p> <p>Probable: Clinically compatible case with supportive laboratory results:</p> <ul style="list-style-type: none"> ▪ IFA serologic titer of >1:64, or ▪ a single CF of ≥ 16, or ▪ other supportive serology (single titer >1:64 by an LA, IHA, or MA test) 	<ul style="list-style-type: none"> ▪ Fourfold or greater rise in antibody titer to <i>Rickettsia prowazekii</i> antigen by IFA, complement fixation (CF), latex agglutination (LA), microagglutination (MA), or indirect hemagglutination antibody (IHA) test in acute – and convalescent – phase specimens ideally taken at least 3 weeks apart, or ▪ Positive PCR assay to <i>R. prowazekii</i>, or ▪ Demonstration of positive <i>R. prowazekii</i> IF of skin lesion (biopsy) or organ tissue (autopsy), or ▪ Isolation of <i>R. prowazekii</i> from clinical specimen <p>Note: The IF test is most commonly used for laboratory confirmation, but it does not discriminate between louse-borne and murine typhus unless the sera are differentially absorbed with the respective rickettsial antigen prior to testing.</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p>Varicella⁶ 10030</p>	<p>An illness with acute onset of diffuse (generalized) papulovesicular 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 may also be atypical in appearance (maculopapular with few or no vesicles).</p> <p>Confirmed: A case that meets the clinical case definition with or without laboratory confirmation</p>	<ul style="list-style-type: none"> ▪ 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 immunoglobulin G (IgG) antibody level by any standard serologic assay
<p><i>Vibrio parahaemolyticus</i>^{1,7} 11541</p>	<p>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.</p> <p>Confirmed: A case that meets the laboratory criteria for diagnosis</p> <p>Probable: A clinically compatible, symptomatic case that is epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Vibrio parahaemolyticus</i> from a clinical specimen, or ▪ Identification of 10⁵ or more organisms per gram of an epidemiologically incriminated food (usually seafood) <p>Note: For <i>Vibrio cholerae</i> isolates, see Cholera All Vibrio species isolates must be submitted to the DSHS laboratory</p>
<p><i>Vibrio</i> spp., non-toxicogenic, other or unspecified¹ 11540</p>	<p>An infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. Asymptomatic infections may occur, and the organism may cause extraintestinal infections</p> <p>Confirmed: A case that meets the laboratory criteria for diagnosis</p> <p>Probable: A clinically compatible, symptomatic case that is epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Vibrio</i> spp. other than <i>V. parahaemolyticus</i>, <i>V. vulnificus</i>, and toxigenic <i>Vibrio cholerae</i> O1 or O139 from a clinical specimen, or ▪ Identification of 10⁵ or more organisms per gram of an epidemiologically incriminated food (usually seafood) <p>Note: For <i>Vibrio cholerae</i> isolates, see Cholera All Vibrio species isolates must be submitted to the DSHS laboratory</p>

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
<p><i>Vibrio vulnificus</i>^{1,7} 11542</p>	<p>Infection with <i>Vibrio vulnificus</i> 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. <i>V. vulnificus</i> 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.</p> <p>Confirmed: A case that meets the laboratory criteria for diagnosis</p> <p>Probable: A clinically compatible, symptomatic case that is epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Vibrio vulnificus</i> from a clinical specimen, or ▪ Identification of 10⁵ or more organisms per gram of an epidemiologically incriminated food (usually seafood) <p>Note: For <i>Vibrio cholerae</i> isolates, see Cholera</p> <p>All Vibrio species isolates must be submitted to the DSHS laboratory</p>
<p>Viral Hemorrhagic Fever¹ 11647</p>	<p>An illness with acute onset of fever > 40° C (104°F), AND one or more of the following clinical findings: severe headache, muscle pain, erythematous maculopapular rash on the trunk with fine desquamation 3–4 days after rash onset, vomiting, diarrhea, abdominal pain, bleeding not related to injury</p> <p>Confirmed: A clinically compatible illness that is laboratory confirmed.</p> <p>Probable: A clinically compatible illness epidemiologically-linked to a confirmed case.</p> <p>Suspected: A clinically compatible illness that meets one of the following exposure criteria.</p> <ul style="list-style-type: none"> ▪ One or more of the following exposures within the 3 weeks before onset of symptoms: <ul style="list-style-type: none"> ○ Contact with blood or other body fluids of a patient with ebola, or ○ Residence in—or travel to—an ebola endemic area, or ○ Work in a laboratory that handles ebola specimens, or ○ Work in a laboratory that handles primates from endemic areas <p>OR</p> <ul style="list-style-type: none"> ▪ Exposure within the past 3 weeks to semen from a confirmed acute or convalescent case of ebola within the 10 weeks of onset of symptoms 	<ul style="list-style-type: none"> ▪ Detection of VHF* viral antigens in blood by enzyme-linked immunosorbent assay (ELISA) antigen detection ▪ Isolation of VHF virus in cell culture for blood or tissues ▪ Detection of VHF viral genes using reverse transcriptase with polymerase chain reaction amplification (RT-PCR) from blood or tissues ▪ Detection of VHF viral antigens in tissues by immunohistochemistry <p>*Viral hemorrhagic fever (VHF) agents include</p> <ul style="list-style-type: none"> ○ Filoviruses (Ebola, Marburg) ○ Lassa Virus ○ New World Arenaviruses (Guanarito, Machupo, Junin, Sabia) ○ Crimean-Congo Hemorrhagic Fever (Nairovirus)
<p>VISA 11663</p>	<p>See Staphylococcus aureus, vancomycin intermediate susceptibility (VISA)¹</p>	
<p>VRSA¹ 11665</p>	<p>See Staphylococcus aureus, coagulase-positive, vancomycin resistant (VRSA)</p>	

Condition/Code	Case Definition/Case Classification	Laboratory Confirmation Tests
West Nile Neuroinvasive Disease (WNND) 10056	See Case Definition/Case Classification for Arbovirus , Neuroinvasive (Encephalitis/meningitis)	See Lab Confirmation Tests for Arbovirus , Neuroinvasive (Encephalitis/meningitis)
West Nile fever¹ 10049	See Case Definition/Case Classification for Arbovirus , Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus , Non-neuroinvasive
Western equine encephalitis virus (WEE)	See Case Definition/Case Classification for Arbovirus , Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive	See Lab Confirmation Tests for Arbovirus , Neuroinvasive (Encephalitis/meningitis) and Non-neuroinvasive
Yellow fever¹ 10660	<p>A mosquito-borne viral illness characterized by acute onset and constitutional symptoms followed by a brief remission and a recurrence of symptoms, fever, hepatitis, albuminuria, and, in some instances, renal failure, shock, and generalized hemorrhages.</p> <p>Confirmed: A clinically compatible case that is laboratory confirmed</p> <p>Probable: A clinically compatible case with supportive serology:</p> <ul style="list-style-type: none"> ▪ Stable elevated antibody titer to yellow fever virus, e.g. <ul style="list-style-type: none"> ○ Greater than or equal to 32 by complement fixation, or ○ Greater than or equal to 256 by immunofluorescence assay, or ○ Greater than or equal to 320 by hemagglutination inhibition, or ○ Greater than or equal to 160 by neutralization, or ▪ Positive serologic result by immunoglobulin M-capture enzyme immunoassay <p>Cross-reactive serologic reactions to other flaviviruses must be excluded, and the patient must not have a history of yellow fever vaccination.</p>	<ul style="list-style-type: none"> ▪ Fourfold 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
Yersiniosis⁷ (Also see Plague) 11565	<p>An illness characterized by diarrhea (sometimes bloody), fever, and abdominal pain; an appendicitis-like syndrome and systemic infections may occur.</p> <p>Confirmed: A case that meets the laboratory criteria for diagnosis</p> <p>Probable: A clinically compatible case that is epidemiologically linked to a confirmed case</p>	<ul style="list-style-type: none"> ▪ Isolation of <i>Yersinia</i> (except <i>Y. pestis</i>)* in a clinical specimen <p>*<i>Y. pestis</i> is reportable as Plague</p> <p>Note: All Yersinia pestis isolates must be submitted to the DSHS laboratory</p>
Outbreaks Exotic Diseases Unusual Expression of Disease Table of Contents	<p>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.</p>	

The case definitions and criteria are partially or fully taken from the following sources as noted:

- ¹ Centers for Disease Control and Prevention web (http://www.cdc.gov/ncphi/disss/nndss/casedef/case_definitions.htm)
- ² Texas Administrative Code, Chapter 96, Bloodborne Pathogen Control [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac_view=4&ti=25&pt=1&ch=96&rl=Y](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=25&pt=1&ch=96&rl=Y)
- ³ Texas DSHS, IDCU, *Creutzfeldt Jakob Disease (CJD) FAQ* at <http://www.dshs.state.tx.us/idcu/disease/creutzfeldt-jakob/faqs/>
- ⁴ CDC Diagnostic Criteria http://www.cdc.gov/ncidod/dvrd/cjd/diagnostic_criteria.html and http://www.cdc.gov/ncidod/dvrd/vcjd/diagnostic_criteria.html
- ⁵ CDC, Parasitic Disease Information at www.cdc.gov/ncidod/dpd/parasites/cysticercosis
- ⁶ *Vaccine-Preventable Disease Guidelines*: http://www.dshs.state.tx.us/idcu/health/vaccine_preventable_diseases/resources/vpd_guide.pdf
- ⁷ Heymann DL. *Control of Communicable Diseases Manual*, 18th ed. Washington, DC: American Public Health Association; 2004
- ⁸ CDC, *Group B Strep Prevention, General Public, FAQs and Adult Disease*, <http://www.cdc.gov/groupbstrep/index.html>
- ⁹ *Perinatal Hepatitis C appendix* in the *DSHS Perinatal Hepatitis B Prevention Manual* for cases in children less than 2 years of age
- ¹⁰ CDC, *Key Facts about Influenza and the Influenza Vaccine* at <http://www.cdc.gov/flu/keyfacts.htm>
- ¹¹ National Center for Infectious Diseases Respiratory and Enteric Viruses Branch, *Norovirus, Technical Fact Sheet* at <http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus-factsheet.htm>
- ¹² *Severe Acute Respiratory Syndrome (SARS), Appendix B1: Revised CSTE SARS Surveillance Case Definition* at <http://www.cdc.gov/ncidod/sars/guidance/b/app1.htm>
- ¹³ *Severe Acute Respiratory Syndrome (SARS), Appendix F8—Guidelines for Laboratory Diagnosis of SARS-CoV Infection* at <http://www.cdc.gov/ncidod/sars/guidance/f/app8.htm>
- ¹⁴ CDC Emergency Preparedness and Response Smallpox Case Definitions <http://www.bt.cdc.gov/agent/smallpox/diagnosis/casedefinition.asp>
- ¹⁵ CDC MRSA home page <http://www.cdc.gov/mrsa/index.html>

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Revised December 2010
Publication No. E59-11841