Epi Case Criteria Guide, 2019

Editor
Laura Tabony, MPH

Contributors

Adam Lynch, MPH
Amy Littman, B.A
Anna Nutt, MPH, CIC
Bobbiejean Garcia, MPH, CIC
Bonny Mayes, MA
Broiana O’Sullivan, MPH
Eric Garza, MPH
Greg Leos, MPH, CPH
Hailey Rucas, MPH
Johnathan Ledbetter, MPH

Jonathan Kolsin, MPH
Kamesha Owens, MPH
Kelly Broussard, MPH
Laura Robinson, DVM, MS
Melba Zambrano, MSN, RN, CIC
Rachael Straver, DVM, MPH
Sandi Arnold, RN, CIC
Sepehr Arshadmansab, MPH
Thi Dang, MPH, CIC
Vivienne Heines, MPH, CPH
## REVISIONS MADE FROM THE 2018 TO THE 2019 EPI CASE CRITERIA GUIDE

### Changes in scope/name
- Salmonellosis to *Salmonella* Paratyphi and Salmonellosis, non-Paratyphi/Non-Typhi
- Typhoid Fever to *Salmonella* Typhi

### Revisions of case Criteria for Confirmed, Probable, or Suspect cases (CC, PC, SC), Clinical Description and/or criteria (CD), Laboratory Confirmation tests (LC) and Note(s) (N)

<table>
<thead>
<tr>
<th>Case</th>
<th>CC, CD, LC, N</th>
<th>Case</th>
<th>CC, PC, CD, LC, N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthrax</td>
<td>LC, N</td>
<td>Prion diseases such as Creutzfeldt-Jakob disease (CJD)</td>
<td>..CC, PC, CD, LC, N</td>
</tr>
<tr>
<td>Arbovirus, neuroinvasive and non-neuroinvasive</td>
<td>CC, CD, LC, N</td>
<td>Rickettsiosis, unspecified</td>
<td>..PC, LC, N</td>
</tr>
<tr>
<td>Carbapenem-resistant Enterobacteriaceae (CRE)</td>
<td>CC, PC, LC, N</td>
<td>Typhoid Fever/<em>Salmonella</em> Typhi</td>
<td>..PC, CD, N</td>
</tr>
<tr>
<td>Chagas disease, acute</td>
<td>CC, PC, LC, N</td>
<td>Spotted fever group rickettsioses</td>
<td>..PC, LC, N</td>
</tr>
<tr>
<td>Chagas disease, chronic indeterminate</td>
<td>PC, N</td>
<td>Tularemia</td>
<td>..PC, N</td>
</tr>
<tr>
<td>Chagas disease, chronic symptomatic</td>
<td>PC, N</td>
<td>Typhus, flea-borne (endemic, murine)</td>
<td>..PC, LC, N</td>
</tr>
<tr>
<td>Cysticercosis</td>
<td>..LC, N</td>
<td>Typhus fever (epidemic, louse-borne)</td>
<td>..PC, LC, N</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>..CC, CD, LC, N</td>
<td>Viral hemorrhagic fever (VHF) Non-Ebola</td>
<td>..SC, LC</td>
</tr>
<tr>
<td>Hepatitis A, acute</td>
<td>..CC, CD, LC, N</td>
<td>Yellow fever</td>
<td>..PC, CD, LC</td>
</tr>
<tr>
<td>Hookworm (ancylostomiasis)</td>
<td>..LC</td>
<td>Yersiniosis</td>
<td>..PC</td>
</tr>
<tr>
<td>Listeriosis</td>
<td>..PC, SC, LC, N</td>
<td>Zika disease, congenital</td>
<td>..LC</td>
</tr>
<tr>
<td>Lyme disease</td>
<td>..PC, N</td>
<td>Zika disease, non-congenital</td>
<td>..CD, LC</td>
</tr>
<tr>
<td>Multidrug-resistant Acinetobacter (MDR-A)</td>
<td>..CD, LC</td>
<td>Zika infection, congenital</td>
<td>..LC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zika infection, non-congenital</td>
<td>..PC, LC</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

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

<table>
<thead>
<tr>
<th>Editor</th>
<th>ii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributors</td>
<td>ii</td>
</tr>
<tr>
<td>REVISIONS MADE FROM THE 2018 TO THE 2019 EPI CASE CRITERIA GUIDE</td>
<td>ii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>vii</td>
</tr>
<tr>
<td>Abbreviations</td>
<td>viii</td>
</tr>
<tr>
<td>Notes</td>
<td>ix</td>
</tr>
</tbody>
</table>

**CASE CRITERIA**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Flaccid Myelitis</td>
<td>10</td>
</tr>
<tr>
<td>Amebiasis</td>
<td>10</td>
</tr>
<tr>
<td>Amebic meningitis/encephalitis, other</td>
<td>11</td>
</tr>
<tr>
<td>Amebic meningoencephalitis, primary (PAM)</td>
<td>12</td>
</tr>
<tr>
<td>Anaplasma phagocytophilum</td>
<td>12</td>
</tr>
<tr>
<td>Anthrax</td>
<td>13</td>
</tr>
<tr>
<td>Arbovirus, neuroinvasive (encephalitis/meningitis) and non-neuroinvasive</td>
<td>14</td>
</tr>
<tr>
<td>Ascariasis</td>
<td>15</td>
</tr>
<tr>
<td>Babesiosis</td>
<td>16</td>
</tr>
<tr>
<td>Botulism, foodborne</td>
<td>17</td>
</tr>
<tr>
<td>Botulism, infant</td>
<td>17</td>
</tr>
<tr>
<td>Botulism, other unspecified</td>
<td>17</td>
</tr>
<tr>
<td>Botulism, wound</td>
<td>17</td>
</tr>
<tr>
<td>Brucellosis</td>
<td>18</td>
</tr>
<tr>
<td>Campylobacteriosis</td>
<td>18</td>
</tr>
<tr>
<td>Carbapenem-resistant Enterobacteriaceae (CRE)</td>
<td>19</td>
</tr>
<tr>
<td>Chagas disease, acute</td>
<td>19</td>
</tr>
<tr>
<td>Chagas disease, chronic indeterminate</td>
<td>20</td>
</tr>
<tr>
<td>Chagas disease, chronic symptomatic</td>
<td>21</td>
</tr>
<tr>
<td>Chickenpox - (see Varicella)</td>
<td>21</td>
</tr>
<tr>
<td>Cholera (toxigenic Vibrio cholerae O1 or O139)</td>
<td>21</td>
</tr>
<tr>
<td>Contaminated sharps injury</td>
<td>22</td>
</tr>
<tr>
<td>Cryptosporidiosis</td>
<td>23</td>
</tr>
<tr>
<td>Cyclosporiasis</td>
<td>23</td>
</tr>
<tr>
<td>Cysticercosis</td>
<td>24</td>
</tr>
<tr>
<td>Dengue–like Illness</td>
<td>24</td>
</tr>
<tr>
<td>Dengue</td>
<td>24</td>
</tr>
<tr>
<td>Dengue, severe</td>
<td>24</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>26</td>
</tr>
<tr>
<td>Ebola (HF)</td>
<td>26</td>
</tr>
<tr>
<td>Echinococcosis</td>
<td>27</td>
</tr>
<tr>
<td>Ehrlichia chaffeensis disease</td>
<td>27</td>
</tr>
<tr>
<td>Disorder/Infection/Condition</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><em>Ehrlichia ewingii</em> disease</td>
<td>27</td>
</tr>
<tr>
<td><em>Ehrlichiosis/Anaplasmosis – undetermined</em></td>
<td>28</td>
</tr>
<tr>
<td><em>Escherichia coli, Shiga toxin-producing (STEC)</em></td>
<td>28</td>
</tr>
<tr>
<td>Fascioliasis</td>
<td>28</td>
</tr>
<tr>
<td>Granulomatosus amebic encephalitis (GAE)</td>
<td>29</td>
</tr>
<tr>
<td>Group A <em>Streptococcus</em>, invasive (GAS)</td>
<td>29</td>
</tr>
<tr>
<td>Group B <em>Streptococcus</em>, invasive (GBS)</td>
<td>29</td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em>, invasive disease</td>
<td>29</td>
</tr>
<tr>
<td>Hantavirus infection, non-HPS</td>
<td>30</td>
</tr>
<tr>
<td>Hantavirus pulmonary syndrome</td>
<td>30</td>
</tr>
<tr>
<td>Hemolytic uremic syndrome, post-diarrheal (HUS)</td>
<td>31</td>
</tr>
<tr>
<td>Hepatitis A, acute</td>
<td>32</td>
</tr>
<tr>
<td>Hepatitis B, acute</td>
<td>32</td>
</tr>
<tr>
<td>Hepatitis B virus infection, perinatal</td>
<td>33</td>
</tr>
<tr>
<td>Hepatitis C, acute</td>
<td>33</td>
</tr>
<tr>
<td>Hepatitis E, acute</td>
<td>34</td>
</tr>
<tr>
<td>Hookworm (anisakidiosiasis)</td>
<td>34</td>
</tr>
<tr>
<td>Influenza, human isolates - [outbreaks only]</td>
<td>35</td>
</tr>
<tr>
<td>Influenza A, novel/variant</td>
<td>36</td>
</tr>
<tr>
<td>Influenza-associated pediatric mortality</td>
<td>37</td>
</tr>
<tr>
<td>Legionellosis</td>
<td>37</td>
</tr>
<tr>
<td>Leishmaniasis</td>
<td>38</td>
</tr>
<tr>
<td>Listeriosis</td>
<td>38</td>
</tr>
<tr>
<td>Lyme disease</td>
<td>39</td>
</tr>
<tr>
<td>Malaria</td>
<td>40</td>
</tr>
<tr>
<td>Measles (Rubella)</td>
<td>40</td>
</tr>
<tr>
<td>Meningococcal infection, invasive (<em>Neisseria meningitidis</em>)</td>
<td>41</td>
</tr>
<tr>
<td>Multidrug-resistant <em>Acinetobacter</em> (MDR-A)</td>
<td>41</td>
</tr>
<tr>
<td>Multidrug-resistant organisms (MDRO) (See specific organism for definition)</td>
<td>42</td>
</tr>
<tr>
<td>Mumps</td>
<td>42</td>
</tr>
<tr>
<td>Norovirus - [outbreaks only]</td>
<td>42</td>
</tr>
<tr>
<td>Novel coronavirus</td>
<td>43</td>
</tr>
<tr>
<td>Outbreaks, exotic diseases, and unusual expression of disease</td>
<td>44</td>
</tr>
<tr>
<td>Paragonimiasis</td>
<td>44</td>
</tr>
<tr>
<td>Pertussis</td>
<td>45</td>
</tr>
<tr>
<td>Plague</td>
<td>46</td>
</tr>
<tr>
<td>Poliomyelitis, paralytic</td>
<td>46</td>
</tr>
<tr>
<td>Poliovirus infection, nonparalytic</td>
<td>46</td>
</tr>
<tr>
<td>Primary amebic meningoencephalitis (PAM)</td>
<td>46</td>
</tr>
<tr>
<td>Prion diseases such as Creutzfeldt-Jakob disease (CJD)</td>
<td>47</td>
</tr>
<tr>
<td>Q Fever, acute</td>
<td>50</td>
</tr>
<tr>
<td>Q Fever, chronic</td>
<td>50</td>
</tr>
<tr>
<td>Rabies, animal</td>
<td>51</td>
</tr>
<tr>
<td>Rabies, human</td>
<td>51</td>
</tr>
<tr>
<td>Rickettsiosis, unspecified</td>
<td>52</td>
</tr>
<tr>
<td>Rubella</td>
<td>52</td>
</tr>
<tr>
<td>Rubella, congenital syndrome</td>
<td>53</td>
</tr>
<tr>
<td><em>Salmonella Paratyphi</em></td>
<td>53</td>
</tr>
<tr>
<td><em>Salmonella Typhi</em></td>
<td>54</td>
</tr>
<tr>
<td>Salmonellosis, non-Paratyphi/non-Typhi</td>
<td>54</td>
</tr>
</tbody>
</table>

Revision date: January 2019
DEFINITION OF TERMS

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

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

Culture-independent diagnostic testing: The detection of antigen or nucleic acid sequences of the pathogen.

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

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

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

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

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

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

Normally sterile site: Invasive diseases typically cause significant morbidity and mortality. Sterile sites include:
- Blood (excluding cord blood)
- Bone or bone marrow
- Cerebrospinal fluid (CSF)
- Pericardial fluid
- Peritoneal fluid
- Pleural fluid

The following are also considered sterile sites when certain other criteria are met:
- Internal body sites (brain, heart, liver, spleen, vitreous fluid, kidney, pancreas, lymph node or ovary) when the specimen is collected aseptically during a surgical procedure
- Joint fluid when the joint surface is intact (no abscess or significant break in the skin)

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

Normally sterile sites do not include:
- Anatomical areas of the body that normally harbor either resident or transient flora (bacteria) including mucous membranes (e.g., throat, vagina), sputum, and skin; abscesses; or localized soft tissue infection.
### ABBREVIATIONS

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

**HEPATITIS TEST MARKERS**

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

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

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

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

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

**OTHER ABBREVIATIONS:**

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

**Rickettsia Classification**

The classification of *Rickettsia* into three groups (spotted fever, typhus, and scrub typhus) was based on serology. This grouping has since been confirmed by DNA sequencing except for *R. felis* which is genetically more closely related to the spotted fever group *Rickettsia*. The human pathogens are included in the following conditions. **Spotted fever group rickettsioses** is defined by antigenic group (spotted fever group) and vector (tick). **Flea-borne (murine) typhus** contains flea-borne species of both the typhus (*R. typhi*) and spotted fever (*R. felis*) groups. **Epidemic typhus** (*R. prowazekii*) belongs to the typhus group and is louseborne. Scrub typhus (*Orientia tsutsugamushi*, formerly classified as *R. tsutsugamushi*), a scrub typhus group species transmitted by mites, and rickettsialpox (*R. 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 CDC’s *Traveler’s Health Yellow Book* at [http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-5/rickettsial-and-related-infections.aspx](http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-5/rickettsial-and-related-infections.aspx).

**Streptococcus Classification**

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

**Lancefield group**

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

**Hemolytic reaction**

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

**Reportable Streptococcus**

- **Group A Streptococcus** (GAS, *Streptococcus pyogenes*) - Lancefield Group A streptococci are nearly always beta-hemolytic.
- **Group B Streptococcus** (GBS, *Streptococcus agalactiae*) - Lancefield Group B streptococci are usually beta-hemolytic, but can also be alpha or gamma hemolytic.
- **Streptococcus pneumoniae** (pneumococcus) - Most strains of *S. pneumoniae* are alpha-hemolytic but can cause ß-hemolysis during anaerobic incubation. They are nontypeable by Lancefield group.
## CASE CRITERIA

<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Acute Flaccid Myelitis 11120 | An illness with onset of acute flaccid limb weakness. **Confirmed:**  
- Clinically compatible case, AND  
- MRI showing spinal cord lesion largely restricted to gray matter*† and spanning one or more spinal segments  
**Probable:**  
- Clinically compatible case, AND  
- CSF showing pleocytosis (white blood cell count >5 cells/mm³)  
Note: To provide consistency in case classification, review of case information and assignment of final case classification for all suspected AFM cases will be done by experts in national AFM surveillance. | ▪ A magnetic resonance image (MRI) showing spinal cord lesion largely restricted to gray matter*† and spanning one or more vertebral segments,  
**OR**  
▪ Cerebrospinal fluid (CSF) with pleocytosis (white blood cell count >5 cells/mm³)  
* Spinal cord lesions may not be present on initial MRI; a negative or normal MRI performed within the first 72 hours after onset of limb weakness does not rule out AFM.  
† Terms in the spinal cord MRI report such as “affecting mostly gray matter,” “affecting the anterior horn or anterior horn cells,” “affecting the central cord,” “anterior myelitis,” or “poliomyelitis” would all be consistent with this terminology. |
| Amebiasis 11040 | Infection of the large intestine by *Entamoeba histolytica* can vary in severity, ranging from mild, chronic diarrhea to fulminant dysentery. Infection may also be asymptomatic. Extraintestinal infection can occur (e.g., hepatic abscess).  
**Confirmed, intestinal amebiasis:** A clinically compatible illness that is laboratory confirmed  
**Suspect, intestinal amebiasis:** A clinically compatible case with *E. histolytica* detected in stool by use of an antigen-based fecal immunoassay  
**Confirmed, symptomatic extraintestinal amebiasis:** A symptomatic person (with clinical or radiographic findings consistent with extraintestinal infection) and demonstration of specific antibody against *E. histolytica* as measured by reliable immunodiagnostic test (e.g., EIA) and PCR based assays  
**Confirmed, asymptomatic extraintestinal amebiasis:** A case with demonstration of the organism, *E. histolytica*, in at least one extra-intestinal tissue sample |  
**Intestinal amebiasis**  
▪ Demonstration of cysts or trophozoites of *E. histolytica* in stool,  
**OR**  
▪ Demonstration of trophozoites in tissue biopsy or ulcer scrapings by culture or histopathology  
**Extra-intestinal amebiasis**  
▪ Demonstration of *E. histolytica* trophozoites in extraintestinal tissue |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Amebic meningitis/encephalitis, other 10096 | An infection presenting as meningoencephalitis or encephalitis. Granulomatous amebic encephalitis (GAE) can include general symptoms and signs of encephalitis such as early personality and behavioral changes, depressed mental status, fever, photophobia, seizures, nonspecific cranial nerve dysfunction, and visual loss. GAE neurologic infections are generally fatal within weeks or months; however, a few patients have survived.  
**Confirmed:** A clinically compatible case that is laboratory confirmed  
Note: *Acanthamoeba* species and *Balamuthia mandrillaris* can also cause disseminated disease (affecting multiple organ systems) or cutaneous disease. For *B. mandrillaris* disease, painless skin lesions appearing as plaques a few millimeters thick and one to several centimeters wide have been observed in some patients, especially patients outside the U.S., preceding the onset of neurologic symptoms by 1 month to approximately 2 years. Skin lesions and sinus disease may be seen in *Acanthamoeba* disease. Disseminated disease and cutaneous disease caused by free-living amebae are only voluntarily reportable in Texas unless they progress to meningitis or encephalitis.  
See also [Amebic meningoencephalitis, primary (PAM)](http://www.cdc.gov/parasites/acanthamoeba/) and [Amebic meningitis/encephalitis](http://www.cdc.gov/parasites/balamuthia/)  
Note: *Acanthamoeba* spp. and *B. mandrillaris* can cause clinically similar illnesses and might be difficult to differentiate using commonly available laboratory procedures. Definitive diagnosis by a reference laboratory might be required. A negative test on CSF does not rule out *Acanthamoeba* or *Balamuthia* infection because these organisms are not commonly present in the CSF. | Detection of *Acanthamoeba, Balamuthia*, or another non-*Naegleria* free-living ameba from a clinical specimen or culture via:  
- Detection of nucleic acid (e.g., PCR),  
- Detection of antigen (e.g., immunohistochemistry)  
Contact the DSHS epidemiologist for meningitis (amebic) at 800-252-8239 if suspected. DSHS can assist in coordinating specimen and/or electronic images submission to the CDC for verification. Collection & shipping procedures can be found at:  
Note: *Acanthamoeba* spp. and *B. mandrillaris* can cause clinically similar illnesses and might be difficult to differentiate using commonly available laboratory procedures. Definitive diagnosis by a reference laboratory might be required. A negative test on CSF does not rule out *Acanthamoeba* or *Balamuthia* infection because these organisms are not commonly present in the CSF. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amebic meningencephalitis, primary (PAM)</strong>&lt;br&gt;80750</td>
<td>An infection presenting as meningoencephalitis or encephalitis. The clinical presentation of PAM is like that of acute meningitis caused by other pathogens and symptoms include headache, nausea, vomiting, anorexia, fever, lethargy, and stiff neck. Disorientation, mental status changes, seizure activity, loss of consciousness, and ataxia may occur within hours of initial presentation. After the onset of symptoms, the disease progresses rapidly and usually results in death within 3 to 7 days. <strong>Confirmed:</strong> A clinically compatible case that is laboratory confirmed &lt;br&gt;<strong>Probable:</strong> A clinically compatible case that meets at least one of the supportive laboratory criteria (listed below) and does not meet confirmatory lab criteria &lt;br&gt;  - Supportive laboratory evidence: &lt;br&gt;  - Visualization of motile amebae in a wet mount of CSF &lt;br&gt;  - Isolation of <em>N. fowleri</em> in culture from a clinical specimen</td>
<td>Detection of <em>Naegleria fowleri</em> from a clinical specimen via: &lt;br&gt;  - Detection of nucleic acid (e.g., PCR), OR &lt;br&gt;  - Detection of antigen (e.g., immunohistochemistry) &lt;br&gt;<strong>Notes:</strong>  - When available, molecular characterization [e.g., genotype] should be reported.  - Contact the DSHS epidemiologist for amebic meningitis at 800-252-8239 if suspected. DSHS can assist in coordinating specimen and/or electronic images submission to the CDC for verification.  - Collection &amp; shipping procedures can be found at: <a href="http://www.cdc.gov/parasites/naegleria/diagnosis-hcp.html">http://www.cdc.gov/parasites/naegleria/diagnosis-hcp.html</a>  - <em>Naegleria fowleri</em> might cause clinically similar illness to bacterial meningitis, particularly in its early stages. Definitive diagnosis by a reference laboratory is required. Unlike <em>Balamuthia mandrillaris</em> and <em>Acanthamoeba</em> spp., <em>N. fowleri</em> is commonly found in the CSF of patients with PAM.</td>
</tr>
<tr>
<td><strong>Anaplasma phagocytophilum</strong>&lt;br&gt;11090</td>
<td>A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. <strong>Confirmed:</strong> A clinically compatible illness that is laboratory confirmed <strong>Probable:</strong> A clinically compatible illness with serological evidence of IgG or IgM antibody reactive (≥ 1:128) with <em>Anaplasma phagocytophilum</em> antigen by IFA or identification of morulae in the cytoplasm of neutrophils or eosinophils by microscopic examination <strong>Suspect:</strong> A case with laboratory evidence of past/present infection with <em>A. phagocytophilum</em> (e.g., laboratory report) but no available clinical information</td>
<td>- Demonstration of a four-fold change in IgG-specific antibody titer to <em>A. phagocytophilum</em> antigen by IFA in paired serum samples (one taken in first week of illness and a second taken 2-4 weeks later), OR &lt;br&gt;  - Detection of <em>A. phagocytophilum</em> DNA in a clinical specimen by PCR, OR &lt;br&gt;  - Demonstration of anaplasmal antigen in a biopsy/autopsy sample by IHC, OR &lt;br&gt;  - Isolation of <em>A. phagocytophilum</em> from a clinical specimen in cell culture</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Anthrax 10350 | An illness or post-mortem examination characterized by several distinct clinical forms, including:  
  - **Cutaneous**: A skin lesion evolving during a period of 2-6 days from a papule, through a vesicular stage, to a depressed black eschar. Fever, malaise, and lymphadenopathy can accompany the lesion.  
  - **Inhalation**: A prodrome resembling a viral respiratory illness, followed by hypoxia and dyspnea, or acute respiratory distress syndrome (ARDS) with resulting cyanosis and shock. Radiographic evidence of mediastinal widening or pleural effusion is common.  
  - **Ingestional** presents as two sub-types:  
    - **Gastrointestinal**: Severe abdominal pain and tenderness, nausea, vomiting, hematemesis, bloody diarrhea, anorexia, fever and septicemia.  
    - **Oropharyngeal**: Mucosal lesion in the oral cavity or oropharynx, with cervical adenopathy, edema, pharyngitis, fever, and possible septicemia.  
  - **Injectional**: Severe soft tissue infection manifested as significant edema or bruising after injection. No eschar is apparent, and pain is not common. Nonspecific symptoms such as fever, shortness of breath and nausea are sometimes the first indication of illness.  
  - **Systemic involvement**: Fever, convulsions, tachycardia, tachypnea, hypotension, leukocytosis, and meningeal signs (anthrax meningitis). These complications may be secondary to the above syndromes.  
  
  **Clinical criteria**: A clinically compatible illness with at least one specific OR two nonspecific symptoms and signs that are compatible with cutaneous, ingestion, inhalation, or injection anthrax; systemic involvement; or anthrax meningitis; OR a death of unknown cause AND organ involvement consistent with anthrax.  
  
  **Confirmed**: A case that meets clinical criteria AND has confirmatory laboratory test results.  
  
  **Probable**: A case that meets clinical criteria AND has a gram stain demonstrating Gram-positive rods, square-ended, in pairs or short chains; OR a positive result on a test with established performance in a CLIA-accredited laboratory OR has epidemiologic linkage* relating it to anthrax.  
  
  **Suspect**: A case that meets the clinical criteria AND for whom an anthrax test was ordered, but with no epidemiologic linkage* relating it to anthrax.  
  
  **Epidemiologic Linkage**:  
    - Exposure to environment, food, animal, materials, or objects that is suspect or confirmed to be contaminated with *B. anthracis*; OR  
    - Exposure to the same environment, food, animal, materials, or objects as another person who has lab-confirmed anthrax; OR  
    - Consumption of the same food as another person who has laboratory-confirmed anthrax. |

- Culture and identification of *Bacillus anthracis* or *B. cereus* expressing anthrax toxins from clinical specimens by the Laboratory Response Network, OR  
- Demonstration of *B. anthracis* antigens in tissues by IHC using both *B. anthracis* cell wall and capsule monoclonal antibodies, OR  
- Evidence of a four-fold rise in antibodies to protective antigen between acute and convalescent sera or a fourfold change in antibodies to protective antigen in paired convalescent sera using CDC quantitative anti-PA IgG ELISA testing in an unvaccinated person, OR  
- Detection of Lethal Factor (LF) in clinical serum specimens by LF mass spectrometry OR  
- Detection of *B. anthracis* or anthrax toxin genes by the LRN-validated PCR and/or sequencing in clinical specimens collected from a normally sterile site or lesion of other affected tissue  

Note: As required by TAC, all *B. anthracis* isolates must be submitted to the DSHS Laboratory. *B. cereus* expressing anthrax toxin isolates should be forwarded for confirmation.
### Arbovirus, neuroinvasive (encephalitis/meningitis) and non-neuroinvasive

<table>
<thead>
<tr>
<th>Neuroinvasive Disease</th>
<th>Non-neuroinvasive Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>10058 Encephalitis, Cache Valley</td>
<td>99999 Arbovirus, other</td>
</tr>
<tr>
<td>10054 Encephalitis, California serogroup virus</td>
<td>10066 Cache Valley virus</td>
</tr>
<tr>
<td>10053 Encephalitis, Eastern equine (EEE)</td>
<td>10061 California serogroup virus</td>
</tr>
<tr>
<td>10078 Encephalitis, Jamestown Canyon</td>
<td>10073 Chikungunya virus</td>
</tr>
<tr>
<td>10099 Encephalitis, Japanese</td>
<td>10093 Colorado tick fever</td>
</tr>
<tr>
<td>10081 Encephalitis, La Crosse</td>
<td>10062 Eastern equine encephalitis virus</td>
</tr>
<tr>
<td>10057 Encephalitis, Powassan</td>
<td>10079 Jamestown Canyon</td>
</tr>
<tr>
<td>10051 Encephalitis, St. Louis (SLE)</td>
<td>10068 Japanese encephalitis virus</td>
</tr>
<tr>
<td>10074 Encephalitis, tick-borne</td>
<td>11712 Keystone virus</td>
</tr>
<tr>
<td>10055 Encephalitis, Venezuelan equine (VEE)</td>
<td>10082 La Crosse virus</td>
</tr>
<tr>
<td>10056 Encephalitis, West Nile (WNV)</td>
<td>10063 Powassan virus</td>
</tr>
<tr>
<td>10052 Encephalitis, Western equine (WEE)</td>
<td>11734 Snowshoe hare virus</td>
</tr>
</tbody>
</table>

For the purposes of surveillance and reporting, arboviral disease cases are often categorized into two primary groups based on their clinical presentation: neuroinvasive disease and non-neuroinvasive disease. Many arboviruses cause **neuroinvasive disease** such as aseptic meningitis, encephalitis, or acute flaccid paralysis (AFP). These illnesses are usually characterized by the acute onset of fever with stiff neck, altered mental status, seizures, limb weakness, CSF pleocytosis, and/or abnormal neuroimaging. AFP is often characterized by rapid-onset extremity, facial, and/or respiratory weakness and flaccid muscle tone in the affected area; AFP may result from anterior myelitis, peripheral neuritis or post-infectious peripheral demyelinating neuropathy (Guillain-Barré Syndrome). Meningitis is infection or inflammation of the tissues surrounding the brain; symptoms can include fever, headache, photophobia, and nuchal rigidity. Encephalitis is infection or inflammation of the brain tissue itself and may present with fever, altered mental status, seizures, and focal neurologic deficits; meningitis may also be present simultaneously, known as meningoencephalitis. Most arboviruses are capable of causing an **acute systemic febrile illness** (e.g., West Nile fever) that may include headache, myalgias, arthralgias, rash, and/or gastrointestinal symptoms. Some viruses also can cause more characteristic clinical manifestations, such as severe polyarthralgia or arthritis due to chikungunya virus or other alphaviruses.

**Clinical evidence of neuroinvasive disease:**
- Meningitis, encephalitis, acute flaccid paralysis, or other acute signs of central or peripheral neurologic dysfunction, as documented by a physician, **AND**
- Absence of a more likely clinical explanation

**Clinical evidence of non-neuroinvasive disease:**
- Fever or chills as reported by the patient or a health-care provider, **AND**
- Absence of neuroinvasive disease, **AND**
- Absence of a more likely clinical explanation

**Neuroinvasive:**

**Confirmed:** A clinically compatible case (meets neuroinvasive clinical evidence criteria) with laboratory confirmation

**Probable:** A clinically compatible case (meets neuroinvasive clinical evidence criteria) with virus-specific IgM antibodies in CSF or serum but no other testing **OR with lower levels of neutralizing antibodies for potentially cross-reactive** arboviruses endemic to the region where exposure occurred**.

**Non-neuroinvasive:**

**Confirmed:** A clinically compatible case (meets non-neuroinvasive clinical evidence criteria) with laboratory confirmation

**Probable:** A clinically compatible case (meets non-neuroinvasive clinical evidence criteria) with virus-specific IgM antibodies in serum but no other testing **OR with lower levels of neutralizing antibodies for potentially cross-reactive** arboviruses endemic to the region where exposure occurred

**Note:** If lab evidence, clinical manifestations, and exposure history cannot distinguish between two arboviruses, the case should be reported as “Arbovirus, other.”

**Neuroinvasive**
- Isolation of virus from, or demonstration of specific viral antigen or nucleic acid in, tissue, blood, CSF, or other body fluid, **OR**
- Four-fold or greater change in virus-specific quantitative antibody titers in paired sera, **OR**
- Virus-specific IgM antibodies in serum with confirmatory virus-specific neutralizing antibodies in the same or a later specimen, and negative neutralizing antibody results for potentially cross-reactive* arboviruses endemic to the region where exposure occurred, **OR**
- Virus-specific IgM antibodies in CSF and a negative result for other IgM antibodies in CSF for potentially cross-reactive* arboviruses endemic to the region where exposure occurred

**Non-neuroinvasive**
- Isolation of virus from, or demonstration of specific viral antigen or nucleic acid in, tissue, blood, or other body fluid, **excluding CSF**, **OR**
- Four-fold or greater change in virus-specific quantitative antibody titers in paired sera, **OR**
- Virus-specific IgM antibodies in serum with confirmatory virus-specific neutralizing antibodies in the same or a later specimen and negative neutralizing antibody results for potentially cross-reactive* arboviruses endemic to the region where exposure occurred

*Viruses in the same genus (the majority of pathogenic arboviruses are in the flavivirus, alphavirus, or orthobunyavirus genus) are generally considered potentially cross-reactive. Consider area of exposure, clinical manifestations of each arbovirus, and level of arbovirus activity when assessing which viruses must be ruled out.
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Ascariasis** | Ascariasis is a soil-transmitted helminth. Infection is generally associated with few or no overt clinical symptoms. Live worms, passed in stools or occasionally from the mouth, anus, or nose, are often the first recognized sign of infection. Larval migration may result in pulmonary manifestations such as wheezing, cough, fever, eosinophilia and pulmonary infiltration in some patients. Mild infections may result in minor abdominal discomfort, dyspepsia, and loss of appetite. Major infections may result in severe abdominal pain, fatigue, vomiting, or weight loss. In children, these symptoms can result in nutrient deficiencies resulting in growth retardation and/or cognitive impairment. Serious complications are rare but can be fatal and include intestinal obstruction by a bolus of worms, or obstruction of bile duct, pancreatic duct or appendix by one or more adult worms. **Confirmed:** A case that is laboratory confirmed **Probable:** A clinically compatible case with evidence of infection such as  
  - An ultrasound showing worms in the pancreas or liver, **OR**  
  - CT scans or MRI showing worms present in the ducts of the liver or pancreas. | - Microscopic identification of *Ascaris* eggs in feces,  
  **OR**  
  - Microscopic identification of ascarid larvae in sputum or gastric washings,  
  **OR**  
  - Identification of adult worms expelled after treatment, or removed during endoscopy |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babesiosis</td>
<td>Babesiosis is a parasitic disease caused by organisms in the <em>Babesia</em> genus. Infection can range from subclinical to life-threatening. Clinical manifestations can include hemolytic anemia and nonspecific influenza-like signs and symptoms (e.g., fever, chills, sweats, headache, myalgia, arthralgia, malaise, fatigue, and generalized weakness), splenomegaly, hepatomegaly, or jaundice. Laboratory findings can include thrombocytopenia, proteinuria, hemoglobinuria, and elevated levels of liver enzymes, blood urea nitrogen, and creatinine. Severe cases can be associated with marked thrombocytopenia, disseminated intravascular coagulation, hemodynamic instability, acute respiratory distress, myocardial infarction, renal failure, hepatic compromise, altered mental status, and death. <strong>Objective Clinical Criteria:</strong> 1) fever; 2) anemia; 3) thrombocytopenia  <strong>Subjective Clinical Criteria:</strong> 1) sweats, 2) headache, 3) myalgia, 4) arthralgia, 5) chills  <strong>Confirmed:</strong> A clinically compatible case that is laboratory confirmed and meets at least one objective clinical criterion or one subjective clinical criterion  <strong>Probable:</strong> A case that:  ▪ Has at least one supportive laboratory result (criteria listed below) and meets at least one objective clinical criterion (subjective clinical criteria alone are not sufficient)  ▪ IFA total immunoglobulin (Ig) or IgG titer:  ▪ <em>B. microti</em>: ≥1:256 (≥1:64 in epidemiologically linked blood donors or recipients  ▪ <em>B. divergens</em>: ≥1:256  ▪ <em>B. duncani</em>: ≥1:512  ▪ Immunoblot IgG: <em>B. microti</em> positive result, or  ▪ Is a blood donor or recipient epidemiologically linked to a confirmed or probable babesiosis case, and  ▪ Has confirmatory laboratory evidence but does not satisfy objective or subjective clinical criterion, or  ▪ Satisfies the supportive laboratory criteria (same as above)  <strong>Suspect:</strong> A case that has confirmatory or supportive laboratory results, but insufficient clinical or epidemiological information is available for case classification</td>
<td>At least one of the following must be met:  ▪ Identification of intraerythrocytic <em>Babesia</em> organisms by light microscopy in a Giemsa, Wright, or Wright-Giemsa-stained blood smear, or  ▪ Detection of <em>Babesia</em> spp. DNA in a whole blood specimen by PCR, or  ▪ Detection of <em>Babesia</em> spp. genomic sequences in a whole blood specimen by nucleic acid amplification, or  ▪ Isolation of <em>Babesia</em> organisms from a whole blood specimen by animal inoculation</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Botulism, foodborne</td>
<td>Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis can progress rapidly. <strong>Confirmed</strong>: 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. <strong>Probable</strong>: A clinically compatible case with a history of ingestion of a food item known to carry a risk for the botulism toxin.</td>
<td>• Detection of botulinum toxin in serum, stool, or patient's food, OR Isolation of <em>Clostridium botulinum</em> from stool. Note: As required by TAC all <em>Clostridium botulinum</em> isolates must be submitted to the DSHS Laboratory.</td>
</tr>
<tr>
<td>10530</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botulism, infant</td>
<td>An illness of infants, characterized by constipation, poor feeding, and “failure to thrive” that can be followed by progressive weakness, impaired respiration, and death. <strong>Confirmed</strong>: A clinically compatible case that is laboratory confirmed, occurring in a child aged less than 1 year.</td>
<td>• Detection of botulinum toxin in stool or serum, OR Isolation of <em>Clostridium botulinum</em> from stool. Note: As required by TAC all <em>Clostridium botulinum</em> isolates must be submitted to the DSHS Laboratory.</td>
</tr>
<tr>
<td>10540</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botulism, other unspecified</td>
<td>Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis can progress rapidly. <strong>Confirmed</strong>: 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.</td>
<td>• Detection of botulinum toxin in clinical specimen, OR Isolation of <em>Clostridium botulinum</em> from clinical specimen. Note: As required by TAC all <em>Clostridium botulinum</em> isolates must be submitted to the DSHS Laboratory.</td>
</tr>
<tr>
<td>10548</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botulism, wound</td>
<td>An illness resulting from toxin produced by <em>Clostridium botulinum</em> that has infected a wound. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis can progress rapidly. <strong>Confirmed</strong>: A clinically compatible case that is laboratory confirmed in a patient who has no suspected exposure to contaminated food and who has a history of a fresh, contaminated wound during the 2 weeks before onset of symptoms, or a history of injection drug use within the 2 weeks before onset of symptoms. <strong>Probable</strong>: A clinically compatible case in a patient who has no suspected exposure to contaminated food and who has either a history of a fresh, contaminated wound during the 2 weeks before onset of symptoms, or a history of injection drug use within the 2 weeks before onset of symptoms.</td>
<td>• Detection of botulinum toxin in serum, OR Isolation of <em>Clostridium botulinum</em> from wound. Note: As required by TAC all <em>Clostridium botulinum</em> isolates must be submitted to the DSHS Laboratory.</td>
</tr>
<tr>
<td>10549</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------</td>
<td>------------------------------</td>
</tr>
</tbody>
</table>
| **Brucellosis** 10020 | An illness that can cause a range of clinical signs and symptoms. Initial signs and symptoms may include fever, sweats, malaise, anorexia, headache, myalgia, arthralgia and/or fatigue. Chronic signs and symptoms may include recurrent fevers, arthritis, epididymitis, orchitis, endocarditis, hepatomegaly, splenomegaly, neurologic symptoms, chronic fatigue, and/or depression. **Confirmed:** A clinically compatible illness that is laboratory confirmed  
**Probable:** A clinically compatible case with at least one of the following:  
- Epidemio logically linked to a confirmed human or animal brucellosis case, **OR**  
- *Brucella* total antibody titer ≥1:160 by standard tube agglutination test (SAT) or by *Brucella* microagglutination test (BMAT) in one or more serum specimens obtained after onset of symptoms, **OR**  
- Detection of *Brucella* DNA in a clinical specimen by PCR assay |  
- Culture and identification of *Brucella* spp. from clinical specimens,  
**OR**  
- Four-fold or greater rise in *Brucella* agglutination titer between acute- and convalescent-phase serum specimens obtained greater than or equal to 2 weeks apart and studied at the same laboratory  
Note: As required by TAC, all *Brucella* spp. isolates must be submitted to the DSHS Laboratory. |
| **Campylobacteriosis** 11020 | An illness of variable severity commonly manifested by diarrhea, abdominal pain, nausea and sometimes vomiting. The organism may also rarely cause extra-intestinal infections such as bacteremia, meningitis or other focal infections.  
**Confirmed:** A case that is laboratory confirmed  
**Probable:**  
- A case with *Campylobacter* spp. detected, in a clinical specimen using a culture independent diagnostic test (CIDT)  
  **OR**  
- A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis |  
- Isolation of *Campylobacter* spp. in a clinical specimen |

**Notes:**  
- The use of CIDTs as stand-alone tests for the direct detection of *Campylobacter* in stool is increasing. Data regarding their performance indicate variability in the sensitivity, specificity, and positive predictive value of these assays depending on the manufacturer (CDC unpublished data). It is therefore useful to collect information on the laboratory conducting the testing using the laboratory’s unique CLIA number, and when possible, type and manufacturer of the CIDT used to diagnose each case. Culture confirmation of CIDT-positive specimens is ideal, but not practical to achieve in most jurisdictions.  
- A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species.
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carbapenem-resistant Enterobacteriaceae (CRE) 77924</strong></td>
<td>Carbapenem-resistant Enterobacteriaceae (CRE): Carbapenemase producing Enterobacteriaceae or carbapenem-resistant Enterobacteriaceae, specifically Klebsiella species and Escherichia coli, are gram-negative bacilli that have the ability to break down the carbapenem antibiotic rendering it ineffective. Although Enterobacter species can be resistant to carbapenem antibiotics, Enterobacter species are not included in this CRE definition. Klebsiella aerogenes, previously known as Enterobacter aerogenes, does meet the case definition. Carbapenem resistance by Enterobacteriaceae can occur by many different mechanisms, such as KPC and NDM, which can be transmitted from one Enterobacteriaceae to another. CRE can colonize or infect any body site. The most common types of CRE infections include bloodstream infections, ventilator-associated pneumonia and intra-abdominal abscesses. Exceptions to case criteria include the noncarbapenemase OXA-48 variants: OXA-163, OXA-247, and OXA-405. <strong>Confirmed:</strong> A Klebsiella species, E. aerogenes, or E. coli from any body site that is laboratory confirmed. <strong>Note:</strong> Additional information on CRE can be found at <a href="http://www.cdc.gov/HAI/organisms/cre/index.html">http://www.cdc.gov/HAI/organisms/cre/index.html</a></td>
<td>▪ Any Klebsiella species, E. aerogenes, or E. coli that is: ▪ Resistant to any carbapenem, including meropenem, imipenem, doripenem, or ertapenem, <strong>OR</strong> ▪ Positive for known carbapenemase resistance gene (i.e. KPC, NDM, VIM, IMP, OXA-48), <strong>OR</strong> ▪ Positive on a phenotypic test for carbapenemase production by metallo-β-lactamase test, modified Hodge test (MHT), Carba NP, Carbapenem Inactivation Method (CIM) or modified CIM (mCIM). <strong>Note:</strong> There is no requirement to submit isolates to the DSHS Laboratory. Please contact a DSHS HAI Epidemiologist or the DSHS.</td>
</tr>
<tr>
<td><strong>Chagas disease, acute 12041</strong></td>
<td>Chagas disease is a parasitic infection caused by <em>Trypanosoma cruzi</em>. The acute phase is characterized by the first 8 weeks of infection, detectable parasitemia, and asymptomatic (most common) or symptomatic manifestations of disease which can include any of the following: ▪ Fever, malaise, rash, body aches, headache, loss of appetite, vomiting, diarrhea, hepatomegaly, splenomegaly, lymphadenopathy, Chagoma (nodular swelling at site of inoculation), Romaña’s sign (unilateral swelling of the eyelid), acute myocarditis, and/or meningoencephalitis. <strong>Confirmed:</strong> A case (asymptomatic or symptomatic) that has confirmatory laboratory testing. Asymptomatic individuals must have evidence of parasitemia based on microscopy or PCR. <strong>Probable</strong> A clinically compatible case with positive diagnostic serology for <em>T. cruzi</em> antibodies performed within 8 weeks of illness onset or diagnosis. <strong>Notes:</strong> ▪ Samples forwarded to CDC for confirmatory testing which test negative cannot be classified as cases. ▪ Please refer to the DSHS website for guidance on Chagas disease testing: <a href="http://www.dhs.texas.gov/IDCU/disease/Chagas/humans/">http://www.dhs.texas.gov/IDCU/disease/Chagas/humans/</a></td>
<td>▪ Identification of <em>T. cruzi</em> by microscopy including: ▪ Microscopic examination of <em>T. cruzi</em> by: ▪ Wet mount – motile trypanosomes <strong>OR</strong> ▪ Thick &amp; thin smears - Giemsa stain <strong>OR</strong> ▪ Detection of <em>T. cruzi</em> DNA by PCR <strong>OR</strong> ▪ Positive diagnostic serology confirmed by testing at CDC. <strong>Note:</strong> Congenital infections are considered acute up to 8 weeks of age and can be diagnosed by confirmatory tests. Infants &lt; 9 months and epidemiologically-linked need to be retested after 9 months of age.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------</td>
<td>-------------------------------</td>
</tr>
</tbody>
</table>
| Chagas disease, chronic indeterminate 12043 | Following the acute phase, most infected people enter into a prolonged, asymptomatic form of disease (called “chronic indeterminate”) during which few or no parasites are found in the blood. During this time, most people are unaware of their infection. Many people remain asymptomatic for life and never develop chronic Chagas-related symptoms. **Confirmed:** An asymptomatic case >9 months of age with confirmatory lab results **Probable:** An asymptomatic case >9 months of age with supportive laboratory testing* which includes:  
  - Positive diagnostic serology for *T. cruzi* IgG antibodies  
  - OR  
  - Positive (reactive) blood donor screening | Detection of antibody specific to *T. cruzi* by TWO distinct diagnostic tests performed at CDC  
Note: No single supportive test has the sensitivity and specificity to be relied on alone, thus two different methods or antibodies specific to *T. cruzi* are used. |
|               | Notes:  
  - Samples forwarded to CDC for confirmatory testing which test negative cannot be classified as cases.  
  - Patients with positive diagnostic serology should have confirmatory testing performed at the CDC.  
  - Women with chronic indeterminate disease can transmit infection to their unborn babies. Infants <9 months of age with a mother from an endemic area, in absence of direct detection of the organism, cannot be classified or ruled out due to maternal antibodies; perform serology at 9 months of age and classify based on presence or absence of symptoms as chronic symptomatic or chronic indeterminate case definition.  
  - Please refer to the DSHS website for guidance on Chagas disease testing: [http://www.dshs.texas.gov/IDCU/disease/Chagas/humans/](http://www.dshs.texas.gov/IDCU/disease/Chagas/humans/) |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chagas disease, chronic symptomatic</strong> 12042</td>
<td>Much like the chronic indeterminate phase, the chronic symptomatic phase of disease (more than 8 weeks post infection) is characterized by undetectable parasitemia. However, an estimated 20 - 30% of infected people will develop debilitating and sometimes life-threatening medical problems over the course of their lives. Complications of chronic Chagas disease may include heart rhythm abnormalities that can cause sudden death, a dilated heart that doesn’t pump blood well, and/or a dilated esophagus or colon, leading to difficulties with eating or passing stool. <strong>Confirmed:</strong> A clinically compatible case of physician-diagnosed chronic Chagas disease in a patient &gt; 9 months of age with confirmatory laboratory results  <strong>Probable:</strong> A clinically compatible case of physician-diagnosed chronic Chagas disease in a patient &gt; 9 months of age with supportive laboratory testing which includes:  - Positive diagnostic serology for <em>T. cruzi</em> IgG antibodies  - Positive (reactive) blood donor screening  <strong>Notes:</strong>  - Samples forwarded to CDC for confirmatory testing which test negative cannot be classified as cases.  - Patients with positive diagnostic serology should have confirmatory testing performed at the CDC.  - Women with chronic indeterminate disease can transmit infection to their unborn babies. Infants &lt;9 months of age with a mother from an endemic area, in absence of direct detection of the organism, cannot be classified or ruled out due to maternal antibodies; perform serology at 9 months of age and classify based on presence or absence of symptoms as chronic symptomatic or chronic indeterminate case definition.  - Please refer to the DSHS website for guidance on Chagas disease testing: <a href="http://www.dhs.texas.gov/IDCU/disease/Chagas/humans/">http://www.dhs.texas.gov/IDCU/disease/Chagas/humans/</a></td>
<td>- Detection of antibody specific to <em>T. cruzi</em> by TWO distinct diagnostic tests performed at CDC  Note: No single supportive test has the sensitivity and specificity to be relied on alone, thus two different methods or antibodies specific to <em>T. cruzi</em> are used.</td>
</tr>
<tr>
<td><strong>Chickenpox - (see Varicella)</strong></td>
<td>See Varicella</td>
<td></td>
</tr>
<tr>
<td><strong>Cholera (toxigenic <em>Vibrio cholerae</em> O1 or O139)</strong> 10470</td>
<td>An illness characterized by diarrhea and/or vomiting; severity is variable.  <strong>Confirmed:</strong> A clinically compatible illness that is laboratory confirmed  <strong>Note:</strong> Illnesses caused by strains of <em>V. cholerae</em> other than toxigenic <em>V. cholerae</em> O1 or O139 should not be reported as cases of cholera. (See <em>Vibrio parahaemolyticus, Vibrio vulnificus,</em> and <em>Vibriosis, other or unspecified</em>)</td>
<td>- Isolation of toxigenic (i.e., cholera toxin-producing) <em>Vibrio cholerae</em> O1 or O139 from stool or vomitus, OR  - Serologic evidence of recent infection  Note: As required by TAC all <em>Vibrio</em> species isolates must be submitted to the DSHS Laboratory.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Contaminated sharps injury</td>
<td>A contaminated sharps injury that occurs in a health care setting that is contaminated with human blood or body fluids should be reported per the below guidelines. Contaminated sharps injuries in private facilities must be documented per OSHA guidelines. <a href="http://www.osha.gov/SLTC/etools/hospital/hazards/sharps/sharps.html">http://www.osha.gov/SLTC/etools/hospital/hazards/sharps/sharps.html</a> Contaminated sharps injuries in Texas public facilities (government entities) are reported to DSHS Emerging and Acute Infectious Disease Branch. The facility where the injury occurred should complete the reporting form and submit it to the local health authority where the facility is located. If no local health authority is appointed for this jurisdiction, submit to the regional director of the Texas Department of State Health Services (TDSHS) regional office in which the facility is located. Address information for regional directors can be obtained at <a href="http://www.dshs.state.tx.us/regions/default.shtm">http://www.dshs.state.tx.us/regions/default.shtm</a>. The local health authority, acting as an agent for the TDSHS will receive and review the report for completeness, and submit the report to: Texas Department of State Health Services Emerging and Acute Infectious Disease Branch PO Box 149347 (Mailcode 1960), Austin, Texas 78714-9347 Fax number: 512-776-7616 The reporting forms can be found at <a href="http://www.dshs.state.tx.us/dcu/health/infection_control/bloodborne_pathogens/reporting/">http://www.dshs.state.tx.us/dcu/health/infection_control/bloodborne_pathogens/reporting/</a> 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 <a href="http://stacks.cdc.gov/view/cdc/20711">http://stacks.cdc.gov/view/cdc/20711</a> (updated 2013). For health care worker HBV and HCV risk assessment and follow-up refer to the Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis (updated 2001).</td>
<td>Both source person and injured employee should be tested for HIV, HBV, and HCV due to the exposure and not as a laboratory confirmation. See referenced U.S. Public Health Service Guidelines for recommended follow-up testing.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------------------</td>
<td>-------------------------------</td>
</tr>
</tbody>
</table>
| **Cryptosporidiosis**<br>11580 | A gastrointestinal illness characterized by diarrhea and one or more of the following: diarrhea duration of 72 hours or more, abdominal cramping, vomiting, or anorexia.  
*Confirmed:* A case that is laboratory confirmed  
*Probable:* A case with *Cryptosporidium* antigen detected by a screening test method such as, the immunochromatographic card/rapid card test or a laboratory test of unknown method OR A clinically compatible case that is epidemiologically linked to a confirmed case by one of the following means:  
• Household or other close contact to a lab-confirmed case with onset of symptoms within 1 month (before or after), OR  
• Exposure to an outbreak at a body of water or water facility involving at least 2 lab-confirmed cases and onset of symptoms within one month (before or after) of one or more of these cases  
Note: A case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection | - Detection of *Cryptosporidium* organisms or DNA in stool, intestinal fluid, tissue samples, biopsy specimens, or other biological sample by certain laboratory methods with a high positive predictive value (PPV), e.g., DFA, PCR, EIA, or light microscopy of stained specimen |
| **Cyclosporiasis**<br>11575 | An illness of variable severity caused by the protozoan parasite *Cyclospora cayetanensis*. The most common symptom is watery diarrhea. Other common symptoms include loss of appetite, weight loss, abdominal cramps/bloating, nausea, body aches, and fatigue. Vomiting and low grade fever also may be noted. Relapses and asymptomatic infections can occur.  
*Confirmed:* A laboratory-confirmed case with or without clinical symptoms  
*Probable:* A clinically compatible case that is epidemiologically linked to a confirmed case  
Note: A case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection | - Detection — in symptomatic or asymptomatic persons — of Cyclospora:  
• Oocysts in stool by microscopic examination, or in intestinal fluid/aspirate or intestinal biopsy specimens, OR  
• Demonstration of sporulation, OR  
• DNA (by PCR) in stool, intestinal fluid/aspirate or intestinal biopsy specimens |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Cysticercosis   | **Cysticercosis** is a tissue infection caused by the larval form of the pork tapeworm, *Taenia solium*. Infection occurs when the tapeworm eggs are ingested, hatch into larvae, and migrate to tissues where they form cysticerci (cysts). The signs and symptoms of cysticercosis reflect the development of cysticerci in various sites. Subcutaneous cysticerci may be visible or palpable. When cysticerci are found in the brain, the condition is called neurocysticercosis, which can cause diverse manifestations including seizures, mental disturbances, focal neurologic deficits, and signs of space-occupying intracerebral lesions. Death can occur suddenly. Extracerebral cysticercosis can cause ocular, cardiac, or spinal lesions with associated signs and symptoms. Asymptomatic subcutaneous nodules and calcified intramuscular nodules can be encountered. **Confirmed:** Laboratory confirmation of the presence of cysticercus in tissue. **Notes:**  
  - Documentation of biopsy or imaging results is required.  
  - Demonstration of *T. solium* eggs and proglottids in the feces are diagnostic of taeniasis (see *Taenia solium* and undifferentiated Taeniasis), not cysticercosis. Persons who are found to have eggs or proglottids in their feces should be evaluated serologically since autoinfection, resulting in cysticercosis, can occur.  
  - Blood tests are available to help diagnose an infection, but are not always accurate. While suggestive, it does not necessarily prove that cysticercosis is present. | ▪ Diagnosis of neurocysticercosis is usually made by MRI or CT brain scans in order to identify the presence of cysticerci. If surgery is necessary, confirmation of the diagnosis can be made by demonstrating the cysticercus in the tissue involved (biopsy).  
  ▪ Radiographs can identify calcified cysticerci in tissues other than the brain. |
| Dengue-like Illness | Dengue is a potentially fatal febrile illness caused by infection with any of the four dengue viruses (DENV-1, -2, -3 and -4). Dengue is transmitted primarily through the bite of *Aedes aegypti* and *Ae. albopictus* mosquitoes. For the purposes of surveillance and reporting, based on their clinical presentation, dengue cases can be categorized into three primary groups: dengue-like illness, dengue, and severe dengue.  
**Clinical evidence of dengue-like illness:**  
▪ Fever as reported by the patient or healthcare provider | ▪ Detection of DENV nucleic acid in serum, plasma, CSF, other body fluid or tissue by validated RT-PCR,  
**OR**  
▪ Detection of DENV antigen in tissue, by IHC,  
**OR**  
▪ Detection in serum or plasma of DENV NS1 antigen by a validated immunoassay,  
**OR**  
▪ Cell culture isolation of DENV from serum, plasma, or CSF specimen,  
**OR**  
▪ Detection of IgM anti-DENV in serum or CSF in a traveler returning from a dengue endemic area without ongoing transmission of another flavivirus, clinical evidence of co-infection with a flavivirus or recent vaccination against a flavivirus,  
**OR**  
▪ Detection of IgM anti-DENV in serum or CSF |
| Dengue           | ▪ Fever as reported by the patient or healthcare provider and the presence of one or more of the following signs and symptoms:  
  ▪ nausea/vomiting  
  ▪ rash  
  ▪ aches and pains (i.e. headache, retro-orbital pain, arthralgia)  
  ▪ tourniquet test positive  
  ▪ leukopenia (a total white blood cell <5,000/mm³)  
  ▪ abdominal pain  
  ▪ persistent vomiting  
  ▪ extravascular fluid accumulation | |
| Dengue, severe   | |

Revision date: January 2019

24
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mucosal bleeding</td>
<td>in a person living in a dengue endemic or non-endemic area of the US without evidence of other flavivirus transmission, <strong>OR</strong></td>
</tr>
<tr>
<td></td>
<td>liver enlargement &gt;2 centimeters</td>
<td>IgM anti-DENV seroconversion by validated immunoassay in serum or CSF in a person living in a dengue endemic non-endemic area of the US with evidence of other flavivirus transmission or recent vaccination against a flavivirus, <strong>OR</strong></td>
</tr>
<tr>
<td></td>
<td>increasing hematocrit concurrent with rapid decrease in platelet count</td>
<td>Detection of IgM anti-DENV by validated immunoassay in acute (i.e., collected &lt;5 days of illness onset) and convalescent (i.e., collected &gt;5 days after illness onset) serum specimens, <strong>OR</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IgG anti-DENV seroconversion or ≥4-fold rise in titer in serum specimens collected &gt;2 weeks apart, and confirmed by a neutralization test (e.g., plaque reduction neutralization test) with a &gt;4-fold higher end point titer as compared to other flaviviruses tested</td>
</tr>
</tbody>
</table>

**Clinical evidence of severe dengue:**
- Dengue with any one or more of the following scenarios:
  - severe plasma leakage evidenced by hypovolemic shock and/or extravascular fluid accumulation with respiratory distress
  - severe bleeding from the gastrointestinal tract or vagina as defined by requirement for medical intervention including intravenous fluid resuscitation or blood transfusion
  - severe organ involvement, including any of the following:
    - elevated liver transaminases: aspartate aminotransferase (AST) or alanine aminotransferase (ALT) ≥1,000 units per liter (U/L)
    - impaired level of consciousness and/or diagnosis of encephalitis, encephalopathy, or meningitis
    - heart or other organ involvement including myocarditis, cholecystitis, and pancreatitis

**Confirmed:** A clinically compatible case of dengue-like illness, dengue, or severe dengue with confirmatory laboratory results.

**Probable:** A clinically compatible case of dengue-like illness, dengue, or severe dengue AND one of the following:
- Detection of IgM anti-DENV by validated immunoassay in serum or CSF in a person living in a dengue endemic or non-endemic area of the US with evidence of other flavivirus transmission or recent vaccination against a flavivirus
- Detection of IgM anti-DENV by validated immunoassay in serum or CSF in a traveler returning from a dengue endemic area with ongoing transmission of another flavivirus, clinical evidence of co-infection with one of these flaviviruses, or recent vaccination against a flavivirus

**Suspect:** A clinically compatible case of dengue-like illness, dengue, or severe dengue with an epidemiologic linkage, as defined below:

**Epidemiologic linkage criteria:**
- Travel to a dengue endemic country or presence at a location with an ongoing outbreak within the previous two weeks of onset of an acute febrile illness or dengue, **OR**
- Association in time and place with a confirmed or probable dengue case
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Diphtheria** 10040 | An upper respiratory tract illness with an adherent membrane of the nose, pharynx, tonsils, or larynx OR an infection of a non-respiratory anatomical site (e.g., skin, wound, conjunctiva, ear, genital mucosa)  
**Confirmed:** A clinically compatible case that is either laboratory confirmed, OR epidemiologically linked to a laboratory-confirmed case OR an infection at a non-respiratory anatomical site (e.g., skin, wound, conjunctiva, ear, genital mucosa) with:  
- Isolation of toxin-producing *Corynebacterium diphtheriae* from that site  
**Notes:**  
- PCR and MALDI-TOF (matrix assisted laser desorption/ionization-time of flight mass spectrometry) diagnosis for *C. diphtheria*, when used alone, do not confirm toxin production. These tests, when used, should always be combined with a test that confirms toxin production, such as the Elek test.  
- Individuals without evidence of clinical criteria as described by the diphtheria surveillance case definition but for whom toxin-producing *C. diphtheria* is confirmed via laboratory testing (isolation and toxigenicity testing by modified Elek test or other validated test capable of confirming toxin-production) should not be classified as cases. These individuals are considered carriers of the bacteria and are not reportable. | - Isolation of *Corynebacterium diphtheriae* from a clinical specimen,  
**AND**  
- Confirmation of toxin-production by Elek test or by another validated test capable of confirming toxin-production |
| **Ebola (HF)** 11630 | An illness characterized by abrupt onset of fever AND accompanied by one or more of the following symptoms: severe headache, nausea, vomiting, abdominal pain, diarrhea, fatigue, weakness, myalgia, unexplained bleeding or bruising, or development of a maculopapular rash.  
**Confirmed:** A clinically compatible illness that is laboratory confirmed  
**Suspect:** A clinically compatible illness that meets one or more of the following exposures within 21 days before onset of symptoms:  
- Contact with blood or other body fluids of a patient with EVD. OR  
- Residence in—or travel to—an EVD endemic area or area currently classified by CDC as experiencing an Ebola outbreak. OR  
- Handling EVD specimens in a laboratory setting. OR  
- Work in a laboratory that handles primates, bats, or rodents from endemic areas. OR  
- Exposure to semen of an individual who had EVD within the last 12 months or breast-milk of an individual who had EVD within the last 6 months. | - RT-PCR for Ebola virus,  
**OR**  
- Ebola virus isolation in culture,  
**OR**  
- Ebola virus antigen-capture ELISA,  
**OR**  
- Detection of Ebola virus antigen by Immunohistochemistry |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
</tr>
</thead>
</table>
| **Echinococcosis**  | Echinococcosis is an infection caused by the larval stage of tapeworms in the genus *Echinococcus*, including *E. granulosus* and *E. multilocularis*. Transmission occurs through the ingestion of tapeworm eggs in contaminated food, water, soil, dog feces, or on the contaminated coats of dogs and cats. Infection may also occur through the ingestion of cysts in the undercooked internal organs of infected intermediate hosts, such as sheep, goats and swine. Many infections are asymptomatic for years before the growing cysts cause clinical signs and symptoms associated with the affected organs. Liver involvement is associated with abdominal pain, hepatic masses, and biliary duct obstruction. Pulmonary involvement can produce chest pain, cough, and hemoptysis. Other organs, including the brain, bone, and heart, may also be involved with resulting clinical signs and symptoms. Ruptured cysts may cause fever, urticaria (hives), eosinophilia and anaphylactic shock.  
Confirmed: An asymptomatic or symptomatic case that meets one or more confirmatory laboratory criteria.  
Probable: An asymptomatic or symptomatic case with *Echinococcus*-specific antibodies identified by TWO different types of serological assays. |
| 80670               | Laboratory Confirmation Tests  
▪ Detection of cysts or organ lesions using imaging techniques, including CT, MRI, and ultrasonography **AND** detection of *Echinococcus*-specific antibodies,  
**OR**  
▪ Detection of *Echinococcus* spp. DNA by PCR in a clinical specimen,  
**OR**  
▪ Histopathology or parasitology results compatible with *Echinococcus* spp. (i.e. direct visualization of the protoscolex in cyst fluid) |
| **Ehrlichiachaffeensis disease** 11088 | A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. Intracytoplasmic bacterial aggregates (morulae) can be visible in the leukocytes of some patients.  
Confirmed: A clinically compatible illness that is laboratory confirmed  
Probable: A clinically compatible illness with serological evidence of IgG or IgM antibody reactive ($\geq$1:128) with *E. chaffeensis* antigen by IFA  
Suspect: A case with laboratory evidence of past/present infection with *E. chaffeensis* (e.g., laboratory report) but no available clinical information |
| **Ehrlichia ewingii disease** 11089 | A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. Intracytoplasmic bacterial aggregates (morulae) can be visible in the leukocytes of some patients.  
Confirmed: A clinically compatible illness that is laboratory confirmed  
Suspect: A case with laboratory evidence of past/present infection with *E. ewingii* (e.g., laboratory report) but no available clinical information |
|                     | ▪ Demonstration of a four-fold change in IgG-specific antibody titer to *E. chaffeensis* antigen by IFA in paired serum samples (one taken in first week of illness and a second taken 2-4 weeks later),  
**OR**  
▪ Detection of *E. chaffeensis* DNA in a clinical specimen by PCR,  
**OR**  
▪ Demonstration of ehrlichial antigen in a biopsy/autopsy sample by IHC,  
**OR**  
▪ Isolation of *E. chaffeensis* from a clinical specimen in cell culture |
|                     | ▪ Detection of *E. ewingii* DNA in a clinical specimen by PCR  
Note: Because the organism has never been cultured, antigens are not available. Thus, *E. ewingii* infections can only be diagnosed by molecular detection methods. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ehrlichiosis/Anaplasmosis – undetermined 11091</td>
<td>A tick-borne illness characterized by acute onset of fever and one or more of the following signs or symptoms: headache, myalgia, malaise, anemia, leukopenia, thrombocytopenia, or elevated hepatic transaminases. Nausea, vomiting, or rash can be present in some cases. Intracytoplasmic bacterial aggregates (morulae) can be visible in the leukocytes of some patients. <strong>Probable</strong>: A clinically compatible illness with serological evidence of IgG or IgM antibody reactive (≥1:128) with <em>Ehrlichia/Anaplasma</em> spp. by IFA OR identification of morulae in white cells by microscopic examination in the absence of other supportive lab results <strong>Suspect</strong>: A case with laboratory evidence of past/present infection with undetermined <em>Ehrlichia/Anaplasma</em> spp. but no available clinical information</td>
<td>Not applicable - See note</td>
</tr>
</tbody>
</table>

**Note**: For ehrlichiosis/anaplasmosis, an undetermined case can only be classified as probable. This occurs when a case has compatible clinical criteria with laboratory evidence to support infection, but not with sufficient clarity to identify the organism as *E. chaffeensis*, *A. phagocytophilum*, or *E. ewingii*. This can include the identification of morulae in white cells by microscopic examination in the absence of other supportive laboratory results.

<table>
<thead>
<tr>
<th><em>Escherichia coli</em>, Shiga toxin-producing (STEC)</th>
<th>See <em>Shiga toxin-producing Escherichia coli (STEC)</em></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fascioliasis 80663</td>
<td>Fascioliasis (liver fluke trematode) is transmitted by eating raw watercress or other water plants contaminated with immature larvae, usually from locations around sheep, cattle, or related animals. The immature larval flukes migrate through the intestinal wall, the abdominal cavity, and the liver tissue, into the bile ducts, where they develop into mature adult flukes. In the early (acute) phase, symptoms may include fever; gastrointestinal problems such as nausea, vomiting and diarrhea; a swollen liver (hepatomegaly); liver function abnormalities, skin rashes; shortness of breath; and abdominal pain or tenderness. The chronic phase (after the parasite settles in the bile ducts), is marked by inflammation and hyperplasia and thickening of the bile ducts and gall bladder, leading to biliary lithiasis or obstruction. The symptoms of this phase such as biliary colic, nausea, intolerance to fatty food, right upper quadrant pain, epigastric pain, obstructive jaundice, and pruritus, are the result of a blockade in the biliary tract and inflammation in the gall bladder. Inflammation of the liver, gallbladder, and pancreas can also occur. <strong>Confirmed</strong>: A case that is laboratory confirmed <strong>Probable</strong>: A clinically compatible case with  - Detection of <em>Fasciola</em> antibodies, OR  - Detection of <em>Fasciola</em> coproantigens (antigens found in feces) by ELISA</td>
<td>**Microscopic identification of <em>Fasciola</em> eggs in feces, duodenal contents, or bile, OR ** Detection of <em>Fasciola</em> coproantigens (antigens found in feces) by ELISA</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Granulomatous amebic encephalitis (GAE)</td>
<td>See Amebic meningitis/encephalitis, other</td>
<td></td>
</tr>
<tr>
<td>Group A <em>Streptococcus</em>, invasive (GAS)</td>
<td>See <em>Streptococcus, invasive group A (GAS)</em></td>
<td></td>
</tr>
<tr>
<td>Group B <em>Streptococcus</em>, invasive (GBS)</td>
<td>See <em>Streptococcus, Invasive group B (GBS)</em></td>
<td></td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em>, invasive disease</td>
<td>Invasive <em>Haemophilus influenzae</em> may manifest as pneumonia, bacteremia/septicemia, meningitis, epiglottitis, pericarditis, osteomyelitis, septic arthritis, endocarditis and cellulitis. <strong>Confirmed:</strong> A case that is laboratory confirmed <strong>Probable:</strong> Meningitis with detection of <em>H. influenzae</em> type b antigen in cerebrospinal fluid (CSF). (Antigen test results in urine or serum are unreliable for diagnosis of <em>H. influenzae</em> disease.)</td>
<td>• Isolation of <em>H. influenzae</em> from a normally sterile site (e.g., blood, cerebrospinal fluid [CSF], or less commonly, joint, pleural, or pericardial fluid), <strong>OR</strong> • Detection of <em>Haemophilus influenzae</em> specific nucleic acid from a normally sterile site using a validated PCR assay See <a href="#">Normally Sterile Site</a> Note: Serotyping of isolates can be performed at the DSHS laboratory. Serotyping is recommended for all <em>H. influenzae</em> cases and required by <a href="#">TAC</a> on isolates from children under 5 years old.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Hantavirus infection, non-HPS     | Hantaviruses are rodent-borne viruses that can be transmitted to humans. Patients with hantavirus infection typically present with nonspecific signs and symptoms including fever, myalgia, headache, and chills. After the prodromal phase, symptoms of hantavirus pulmonary syndrome (HPS) may develop. Non-HPS hantavirus infection is a febrile illness with non-specific signs and symptoms including fever, chills, myalgia, headache, and gastrointestinal symptoms, but no cardiopulmonary symptoms. Clinical laboratory findings may include hemoconcentration, left shift in white blood cell count, neutrophilic leukocytosis, thrombocytopenia, and circulating immunoblasts. HPS is an acute febrile illness characterized by non-specific viral symptoms including fever, chills, myalgia, headache, and gastrointestinal symptoms, and one or more of the following clinical features:  
  ▪ Bilateral diffuse interstitial edema, **OR**  
  ▪ Clinical diagnosis of acute respiratory distress syndrome (ARDS), **OR**  
  ▪ Radiographic evidence of noncardiogenic pulmonary edema, **OR**  
  ▪ Unexplained respiratory illness resulting in death, and includes autopsy examination demonstrating noncardiogenic pulmonary edema without an identifiable cause, **OR**  
  ▪ Healthcare record with a diagnosis of HPS **OR**  
  ▪ Death certificate that lists HPS as a cause of death or a significant condition contributing to death  

**Confirmed:** A clinically compatible case of HPS or non-HPS hantavirus infection with confirmatory laboratory results                                                                                                           | ▪ Detection of hantavirus-specific IgM* or rising titers of hantavirus-specific IgG, **OR**  
▪ Detection of hantavirus-specific ribonucleic acid sequence in clinical specimens, **OR**  
▪ Detection of hantavirus antigen by IHC in lung biopsy or autopsy tissues  
*Due to the high rate of false positives at commercial labs, a sample should be forwarded to DSHS for confirmatory testing |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hemolytic uremic syndrome, post-diarrheal (HUS)</strong>&lt;br&gt;11550</td>
<td>Hemolytic uremic syndrome (HUS) is characterized by the acute onset of microangiopathic hemolytic anemia, renal injury, and low platelet count. Thrombotic thrombocytopenic purpura (TTP) also is characterized by these features but can include central nervous system (CNS) involvement and fever and can have a more gradual onset. Most cases of HUS (but few cases of TTP) occur after an acute gastrointestinal illness (usually diarrheal).&lt;br&gt;&lt;br&gt;<strong>Confirmed:</strong> 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&lt;br&gt;&lt;br&gt;<strong>Probable:</strong>&lt;br&gt;▪ 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, <strong>OR</strong>&lt;br&gt;▪ 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&lt;br&gt;&lt;br&gt;Note: See <a href="http://www.cdc.gov/nnder/ndw">Shiga toxin-producing Escherichia coli (STEC)</a> Cases meeting the criteria for both conditions should be reported under each condition.</td>
<td>The following are both present at some time during the illness:&lt;br&gt;▪ Anemia (acute onset) with microangiopathic changes (i.e., schistocytes, burr cells, or helmet cells) on peripheral blood smear, <strong>AND</strong>&lt;br&gt;▪ 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)&lt;br&gt;&lt;br&gt;Note: A low platelet count can usually, but not always, be detected early in the illness, but it can then become normal or even high. If a platelet count obtained within 7 days after onset of the acute gastrointestinal illness is not less than 150,000/mm³, other diagnoses should be considered.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Hepatitis A, acute 10110 | An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, abdominal pain, or dark urine), AND a) either jaundice or elevated total bilirubin levels ≥ 3.0 mg/dL, OR elevated serum alanine aminotransferase (ALT) levels > 200 IU/L, AND b) the absence of a more likely diagnosis.  
  **Confirmed:**  
  - A case that meets the clinical case criteria and is IgM anti-HAV positive, OR  
  - A case that has hepatitis A virus RNA detected by NAAT (such as PCR or genotyping), OR  
  - A case that meets the clinical criteria and occurs in a person who has an epidemiological link with a person who had contact (e.g., household or sexual) with a laboratory-confirmed hepatitis A case 15-50 days prior to the onset of symptoms.  
  - A case that is not otherwise ruled out by IgM anti-HAV or NAAT for hepatitis A virus testing performed in a public health laboratory.  
  Note: Hepatitis A is usually self-limiting and does not result in chronic infection. However, up to 10% of persons with hepatitis A may experience a relapse during the 6 months after acute illness. Cases of relapsing hepatitis A should not be enumerated as new cases. In addition, a case should not be counted as a hepatitis A case if there is an alternate, more likely diagnosis. | - Immunoglobulin M antibody to hepatitis A virus (anti-HAV IgM) positive, OR  
  - Nucleic acid amplification test (NAAT; such as Polymerase Chain Reaction [PCR] or genotyping) for hepatitis A virus RNA positive |
| Hepatitis B, acute 10100 | An acute illness with a discrete onset of any sign or symptom* consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), AND either b) jaundice, or c) elevated serum alanine aminotransferase levels (ALT) > 100 IU/L.  
  **Confirmed:** A case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis B**  
  *A documented negative hepatitis B surface antigen (HBsAg) laboratory test result within 6 months prior to a positive test result (i.e., HBsAg, hepatitis B “e” antigen [HBeAg], or hepatitis B virus nucleic acid testing [HBV NAT] including genotype) does not require an acute clinical presentation to meet the surveillance case definition.  
  **A person should be considered chronically infected if hepatitis B antigen tests (HBsAg, HBeAg, and/or nucleic acid tests) have been positive for 6 months or longer or if the patient has a history of chronic hepatitis B diagnosis. | - Hepatitis B surface antigen (HBsAg) positive, AND  
  - IgM antibody to hepatitis B core antigen (anti-HBc IgM) positive (if done) |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Hepatitis B virus infection, perinatal 10104 | Perinatal hepatitis B (HBV) in the newborn can range from asymptomatic to fulminant hepatitis.  
**Confirmed:** Child born in the US to a HBV-infected mother and positive for HBsAg at ≥ 1 month of age and ≤ 24 months of age OR positive for HBeAg or HBV DNA ≥9 months of age and ≤ 24 months of age.  
**Probable:** Child born in the US and positive for HBsAg at ≥ 1 month of age and ≤ 24 months of age OR positive for HBeAg or HBV DNA ≥9 months of age and ≤ 24 months of age, but whose mother’s hepatitis B status is unknown (i.e. epidemiologic linkage not present).  
Notes:  
- If the mother is known to be NOT infected with HBV, refer to the case definition for acute Hepatitis B.  
- These definitions are used for surveillance purposes only, not for perinatal hepatitis B prevention case management purposes. | - Hepatitis B surface antigen (HBsAg) positive, hepatitis B e antigen (HBeAg) positive, or detectable Hepatitis B virus DNA (HBV DNA)  
Note: HBsAg must be tested more than 4 weeks after last dose of hepatitis B vaccine to be considered confirmatory. |
| Hepatitis C, acute 10101          | An illness with discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain),  
**AND**  
  a) jaundice,  
  b) a peak elevated serum alanine aminotransferase (ALT) level >200 IU/L during the period of acute illness  
**Confirmed:** A case that meets the clinical criteria and is laboratory confirmed,  
**OR**  
  A documented negative HCV test result (antibody/anti-HCV, antigen, or NAT/PCR followed within 12 months by a positive result of any of these tests (test conversion – does not require acute clinical presentation).  
**Probable:** A case that meets clinical criteria and has a positive anti-HCV antibody test, but has no reports of a positive HCV NAT or positive HCV antigen tests.  
**AND**  
  Does not have evidence of test conversion within 12 months or has no report of test conversion. | Hepatitis C virus detection test:  
- Nucleic acid test (NAT) or PCR test for HCV RNA positive (including qualitative, quantitative or genotype testing)  
**OR**  
- A positive test indicating presence of hepatitis C viral antigen (HCV antigen)*  
*When and if a test for HCV antigen(s) is approved by FDA and available |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Hepatitis E, acute           | Typical clinical signs and symptoms of acute hepatitis E virus (HEV) are similar to those of other types of acute viral hepatitis and include abdominal pain anorexia, dark urine, fever, hepatomegaly, jaundice, malaise, nausea, and vomiting. Other less common symptoms include arthralgia, diarrhea, pruritus, and urticarial rash. The period of infectivity following acute infection has not been determined but virus excretion in stools has been demonstrated up to 14 days after illness onset. In most hepatitis E outbreaks, the highest rates of clinically evident disease have been in young to middle-age adults; lower disease rates in younger age groups can be the result of anicteric and/or subclinical HEV infection. No evidence of chronic infection has been detected in long-term follow-up of patients with hepatitis E. The case fatality rate is low except in pregnant women where it can reach 20% among those infected during the third trimester of pregnancy. **Confirmed:** A case that meets the clinical case description and is laboratory confirmed **Probable:** A case that meets the clinical case description with supportive laboratory evidence (positive IgM antibody from labs other than CDC), OR negative tests for other acute hepatitis markers and an epidemiological link to other confirmed cases or travel history to an endemic area during exposure period | • IgM anti-HEV from CDC laboratory or PCR positive from reference laboratory  
Note: No FDA approved tests to diagnose HEV infection are available in the United States.                                                                                                                                                                                                                     |
| Hookworm (ancylostomiasis)   | Hookworm (ancylostomiasis) is a soil-transmitted helminth. Symptoms may include cough, itchy rash, abdominal discomfort, diarrhea, blood in the stool, loss of appetite, nausea, fatigue, or pale skin. Light hookworm infections generally produce few or no clinical effects. In heavy infections, blood loss at the site of the intestinal attachment of adult worms leads to iron deficiency anemia. In rare cases, prolonged, severe anemia can result in congestive heart failure and death. Children with heavy long-term infection may have impaired growth and delayed mental development due to the loss of iron and protein. **Confirmed:** A case that is laboratory confirmed | • Microscopic identification of *Ancylostoma* or *Necator* eggs in feces,  
OR  
• Microscopic identification of *Ancylostoma* or *Necator* species of larvae cultured from the feces,  
OR  
• Identification of adult worms expelled after treatment treatment or removed during endoscopy                                                                                                                                                                                                 |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Influenza, human isolates - [outbreaks only] 11060 | The flu is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and at times can lead to death. Symptoms of flu may include fever, headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. Stomach symptoms (nausea, vomiting, and diarrhea) can occur but are more common in children than adults. Complications of flu can include bacterial pneumonia, ear infections, sinus infections, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes.  

**Confirmed:** Case that is clinically compatible and laboratory confirmed  

Note: Influenza is not a reportable condition in Texas. See Influenza A, novel/variant infection for reporting of novel/variant strains. See Influenza-associated pediatric mortality for reporting of influenza-associated deaths in all persons aged <18 years. | • Influenza virus isolation in tissue cell culture from respiratory specimens,  
OR  
• Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens,  
OR  
• Immunofluorescent antibody staining (direct or indirect) of respiratory specimens,  
OR  
• Rapid influenza diagnostic testing of respiratory specimens,  
OR  
• Immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract tissue from autopsy specimens,  
OR  
• Four-fold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Influenza A, novel/variant 11062 | An illness compatible with influenza virus infection (fever >100 degrees Fahrenheit, with cough and/or sore throat)  
Confirmed: A case of human infection with a laboratory confirmed novel/variant influenza A virus  
Probable: A case meeting the clinical criteria and epidemiologically linked to a confirmed case, but for which no confirmatory laboratory testing for novel/variant influenza virus infection has been performed or test results are inconclusive for a novel/variant influenza A virus infection  
Criteria for epidemiologic linkage: a) the patient has had contact with one or more persons who either have or had the disease and b) transmission of the agent by the usual modes of transmission is plausible. A case can be considered epidemiologically linked to a laboratory-confirmed case if at least one case in the chain of transmission is laboratory confirmed.  
Suspect: A case meeting the clinical criteria in which influenza A has been detected but is pending laboratory confirmation. Any case of human infection with an influenza A virus that is different from currently circulating human influenza H1 and H3 viruses is classified as a suspect case until the confirmation process is complete.  
Note: Typically, sporadic novel/variant influenza cases will have a history of either close contact with ill animals known to transmit novel subtypes of influenza A (such as wild birds or poultry, swine or other mammals) OR travel, within 14 days, to any country where a novel influenza A virus (such as highly pathogenic avian influenza A H5N1) has been recently identified in animals or people. | Identification of an influenza A virus subtype or strain that is different from currently circulating human influenza H1 and H3 strains as confirmed by CDC’s influenza laboratory, by public health laboratories using CDC-approved protocols for that specific strain, or by labs using FDA-authorized tests for specific strains.  
- Novel/variant subtypes include, but are not limited to, H2, H5, H7, and H9 subtypes.  
- Influenza H1 and H3 subtypes originating from a non-human species or from genetic re-assortment between animal and human viruses are also novel/variant subtypes or strains.  
- Methods available for detection of currently circulating human influenza viruses at public health laboratories (e.g., rRT-PCR) will also detect suspected novel/variant subtypes and strains.  
- Initial confirmation that a specific influenza A virus represents a novel/variant virus will be performed by CDC’s influenza laboratory.  
- Currently, only viral isolation, RT-PCR, gene sequencing, or a 4-fold rise in strain-specific serum antibody titers are considered confirmatory for case classification purposes. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Influenza-associated pediatric mortality**       | An influenza-associated death is defined for surveillance purposes as a death resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test. There should be no period of complete recovery between the illness and death. Influenza-associated deaths in all persons aged <18 years should be reported. A death should not be reported if there is no laboratory confirmation of influenza virus infection, the influenza illness is followed by full recovery to baseline health status prior to death, the death occurs in a person 18 years of age or older, or after review and consultation there is an alternative agreed upon cause of death which is unrelated to an infectious process (For example, a child with a positive influenza test whose death clearly resulted from trauma after a car accident would not qualify as a case. However, a child with a respiratory illness and a positive influenza test whose death is attributed to another infectious cause such as staphylococcal pneumonia would still qualify as a case.).  

**Confirmed:** A death meeting the clinical case definition that is laboratory confirmed | Laboratory testing for influenza virus infection can be done on pre- or post-mortem clinical specimens, and may include identification of influenza A or B virus infections by a positive result by at least one of the following:  
- Influenza virus isolation in tissue cell culture from respiratory specimens,  
  **OR**  
- Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens,  
  **OR**  
- Immunofluorescent antibody staining (direct or indirect) of respiratory specimens,  
  **OR**  
- Rapid influenza diagnostic testing of respiratory specimens,  
  **OR**  
- Immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract tissue from autopsy specimens,  
  **OR**  
- Four-fold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera |
| **Legionellosis**                                   | Legionellosis is associated with two clinically and epidemiologically distinct illnesses: Legionnaires’ disease, which is characterized by fever, myalgia, cough, and clinical or radiological pneumonia; and Pontiac fever, a milder illness without pneumonia.  

**Confirmed:** A clinically compatible case that meets at least one of the confirmatory laboratory criteria | **Isolation (culture) of any Legionella organism from respiratory secretions, lung tissue, pleural fluid, or other normally sterile fluid,**  
**OR**  
**Detection of Legionella pneumophila serogroup 1 antigen in urine using validated reagents,**  
**OR**  
**Demonstration of seroconversion by a fourfold or greater rise in specific serum antibody titer between paired acute and convalescent phase serum specimens to Legionella pneumophila serogroup 1 using validated reagents** |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Leishmaniasis**
80550 | Leishmaniasis is a polymorphic protozoan disease of skin and mucous membranes. The disease starts with a macule then a papule that enlarges and typically becomes an indolent ulcer in the absence of bacterial infection. Lesions can be single or multiple, occasionally nonulcerative and diffuse. Lesions can heal spontaneously within weeks to months, or last for a year or more. In some individuals, certain *Leishmania* strains can disseminate to cause mucosal lesions (espundia) even years after the primary cutaneous lesion has healed. These sequelae, which involve nasopharyngeal tissues, are characterized by progressive tissue destruction and often scanty presence of parasites, and can be severely disfiguring. Recurrence of cutaneous lesions after apparent cure can occur as ulcers, papules, or nodules at or near the healed original ulcer. Mode of transmission to humans is through the bite of infected female phlebotomine sandflies.  
*Confirmed:* A clinically compatible case that is laboratory confirmed | • Microscopic identification of the nonmotile, intracellular form (amastigote) in stained specimens from lesions,  
OR  
• Culture of the motile, extracellular form (promastigote) on suitable media,  
OR  
• An intradermal (Montenegro) test with leishmanin, an antigen derived from the promastigotes, is usually positive in established disease,  
OR  
• Positive *Leishmania* Real-Time PCR or *Leishmania* PCR and DNA sequencing at CDC |
| **Listeriosis**
10640 | In adults, invasive disease caused by *Listeria monocytogenes* manifests most commonly as meningitis or bacteremia; infection during pregnancy can result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Other manifestations can also be observed.  
*Confirmed:* A clinically compatible case that is laboratory confirmed  
*Probable:* The mother of a neonate with confirmed or probable listeriosis, even if the laboratory criteria are not met for the mother; a neonate born to a mother with confirmed or probable listeriosis, even if laboratory criteria are not met for the neonate; or a clinically compatible case detected through use of a culture independent laboratory testing method.  
*Suspect:* Isolation of *L. monocytogenes* from a non-invasive clinical specimen, e.g., stool, urine, wound.  
Notes:  
  ▪ Pregnancy loss and intrauterine fetal demise are considered maternal outcomes and would be counted as a single case in the mother.  
  ▪ Cases in neonates and mothers should be reported separately when each meets the case definition. A case in a neonate is counted if live-born.  
  ▪ A case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection. | • Isolation of *L. monocytogenes* from a normally sterile site, e.g., blood, cerebrospinal fluid (CSF), or less commonly, joint, pleural, or pericardial fluid,  
OR  
• Isolation of *L. monocytogenes* from products of conception at time of delivery and non-sterile sites of neonates obtained with 48 hours of delivery,  
OR  
• In the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue,  
OR  
• In the setting of pregnancy or live birth, isolation of *L. monocytogenes* from mother’s or neonate’s blood or other sterile site, or from placental or amniotic fluid  
See Normally Sterile Site  
Note: As required by TAC all *Listeria monocytogenes* isolates must be submitted to the DSHS Laboratory. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Lyme disease**<sup>11080</sup> | A systemic, tickborne disease with protean manifestations, including dermatologic, rheumatologic, neurologic, and cardiac abnormalities. The best clinical marker for the disease is the initial skin lesion, erythema migrans (EM). For most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mildly stiff neck, arthralgia, or myalgia. **Confirmed:** A case with physician-diagnosed EM ≥ 5 cm in size with an exposure in a high-incidence state or country*, OR a case of physician-diagnosed EM ≥ 5 cm in size with laboratory confirmation with an exposure in a low-incidence state or country*, OR a case with at least one late manifestation** that has laboratory confirmation. *Exposure is defined as having been (≤ 30 days before onset of EM) in wooded, brushy, or grassy areas (i.e., potential tick habitats). An exposure in a high-incidence state is defined as exposure in a state with an average Lyme disease incidence of at least 10 confirmed cases/100,000 for the previous three reporting years. A low-incidence state is defined as a state with disease incidence of <10 confirmed cases/100,000 ([http://www.cdc.gov/lyme/stats/tables.html](http://www.cdc.gov/lyme/stats/tables.html)). Texas is considered a low-incidence state for Lyme disease. **Probable:** Any other clinically compatible case of physician-diagnosed Lyme disease that has laboratory confirmation and the absence of a more likely clinical explanation. **Suspect:** A case of EM with no known exposure and no laboratory evidence of infection, OR a case with laboratory evidence of infection, but no clinical information available. | • Positive culture for *B. burgdorferi*, OR  
• IgG<sup>1</sup> immunoblot seropositivity using established criteria  
OR  
• IgM<sup>2</sup> immunoblot seropositivity using established criteria with  
  ▪ Positive/Equivocal EIA or IFA test, AND  
  ▪ Specimen collected ≤ 30 days after symptom onset  
IgG WB is considered positive when at least five of the following 10 bands are present: 18 kDa, 24 kDa (OspC)*, 28 kDa, 30 kDa, 39 kDa (BmpA), 41 kDa flagellin (Fla), 45 kDa, 58 kDa (not GroEL), 66 kDa, and 93 kDa. Note: While a single IgG WB is adequate for surveillance purposes, a two-tier test is still recommended for patient diagnosis.  
IgM WB is considered positive when at least two of the following three bands are present: 24 kilodalton (kDa) outer surface protein C (OspC)*, 39 kDa basic membrane protein A (BmpA), and 41 kDa (Fla). Note: Disregard IgM results for specimens collected >30 days after symptom onset. *Depending upon the assay, OspC could be indicated by a band of 21, 22, 23, 24 or 25 kDa. |
### Malaria
**Code:** 10130

**Condition/Code:** Malaria  
**Case Definition/Case Classification:** Initial symptoms of malaria are non-specific and include fever, chills, sweats, headaches, muscle pains, nausea and vomiting. In severe cases of malaria (usually caused by *Plasmodium falciparum*), clinical findings can also include confusion, coma, neurologic focal signs, severe anemia, and respiratory difficulties.

**Confirmed:** A case that is laboratory confirmed in any person (symptomatic or asymptomatic) diagnosed in the United States, regardless of whether the person experienced previous episodes of malaria while outside the country.

**Suspect:** Detection of *Plasmodium* species by rapid diagnostic antigen testing (RDT) without confirmation by microscopy or nucleic acid testing in any person (symptomatic or asymptomatic) diagnosed in the United States, regardless of whether the person experienced previous episodes of malaria while outside the country.

**Note:** A subsequent attack experienced by the same person but caused by a different *Plasmodium* species is counted as an additional case. A subsequent attack experienced by the same person and caused by the same species in the U.S. may indicate a relapsing infection or treatment failure caused by drug resistance.

<table>
<thead>
<tr>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Detection and specific identification of malaria parasite species by microscopy on blood films in a laboratory with appropriate expertise</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>• Detection of <em>Plasmodium</em> species by nucleic acid test*</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>• Detection of unspeciated malaria parasite by microscopy on blood films in a laboratory with appropriate expertise</td>
</tr>
</tbody>
</table>

* Laboratory-developed malaria PCR tests must fulfill CLIA requirements, including validation studies.

### Measles (Rubeola)
**Code:** 10140

**Condition/Code:** Measles (Rubeola)  
**Case Definition/Case Classification:** An illness characterized by all of the following: a generalized maculopapular rash lasting at least 3 days; a temperature ≥ 101.0°F (>38.3 °C); and cough, coryza, or conjunctivitis.

**Confirmed:** An acute febrile rash illness (temperature can be lower than 101 ° and rash < 3 days) that is:

- Laboratory confirmed, OR
  - Epidemiologically linked to a laboratory confirmed measles case

- IgG seroconversion or a significant rise in measles immunoglobulin G antibody level by any standard serologic assay *, OR
- Isolation of measles virus from a clinical specimen*, OR
- Detection of measles-virus-specific nucleic acid by PCR *, OR
- A positive serological test for measles immunoglobulin M antibody* not otherwise ruled out by other confirmatory testing or more specific measles testing in a public health laboratory

*Not explained by MMR vaccination during the previous 6-45 days
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meningococcal infection, invasive (Neisseria meningitidis)</strong> 10150</td>
<td>Invasive meningococcal disease manifests most commonly as meningitis and/or meningococcemia that can progress rapidly to purpura fulminans, shock, and death. However, other manifestations (e.g., pneumonia, myocarditis, endocarditis or pericarditis, arthritis, cervicitis) might be observed. <strong>Confirmed:</strong> A case that is laboratory confirmed. <strong>Probable:</strong> A case that has one of the following: ▪ <em>N. meningitidis</em> antigen detection by immunohistochemistry (IHC) on formalin-fixed tissue ▪ <em>N. meningitidis</em> antigen detection by latex agglutination of CSF <strong>Suspect:</strong> A case that has one of the following: ▪ Clinical purpura fulminans in the absence of a positive blood culture ▪ Gram-negative diplococci, not yet identified, isolated from a normally sterile site (e.g., blood or CSF)</td>
<td>▪ Isolation of <em>Neisseria meningitidis</em> from a normally sterile site, <strong>OR</strong> ▪ Isolation of <em>N. meningitidis</em> from purpuric lesions, <strong>OR</strong> ▪ Detection of <em>N. meningitidis</em>-specific nucleic acid in a specimen obtained from a normally sterile site, using a validated polymerase chain reaction (PCR) assay. See <a href="https://cdc.gov/hai/organisms/neisseria.html">Normally Sterile Site</a> <strong>Note:</strong> As required by <a href="https://www.gov.bc.ca/gov/content/health/healthcare-settings/healthcare-associated-infections">TAC</a> all <em>Neisseria meningitidis</em> isolates from normally sterile sites and/or purpuric lesions must be submitted to the DSHS Laboratory for typing and molecular analysis.</td>
</tr>
<tr>
<td><strong>Multidrug-resistant Acinetobacter (MDR-A)</strong> 40684</td>
<td>Multidrug-resistant <em>Acinetobacter</em> (MDR-A) are strictly aerobic gram-negative coccobacilli of the <em>Moraxellaceae</em> family and have more than 25 species within the genus. <em>Acinetobacter</em> have an intrinsic resistance factor that enables them to hydrolyze carbapenem antibiotics, causing resistance to carbapenems and penicillins, and may produce additional resistance to other classes of antibiotics. Healthcare-associated <em>Acinetobacter</em> respiratory tract infections (including ventilator-associated pneumonia), catheter-related urinary tract infections, bloodstream infections, and wound infections have all been well documented in medical literature. In addition, <em>Acinetobacter</em> has been related to many other types of infection such as meningitis, endocarditis, and osteomyelitis to name a few Symptoms associated with MDR-A infections generally vary based on the site that is infected. MDR-A can colonize or infect any body site. <strong>Confirmed:</strong> <em>Acinetobacter</em> species from any body site that is laboratory confirmed. Additional information on MDR-A can be found at: <a href="https://cdc.gov/hai/organisms/acinetobacter.html">https://cdc.gov/hai/organisms/acinetobacter.html</a></td>
<td>Any <em>Acinetobacter</em> species that is nonsusceptible (i.e., resistant or intermediate) to at least 1 antibiotic in at least 3 of the following 6 antimicrobial classes: 1. β-Lactam (Piperacillin, Piperacillin/Tazobactam) 2. Aminoglycosides (Amikacin, Gentamicin, Tobramycin) 3. Carbapenems (Imipenem, Meropenem, Doripenem) 4. Fluoroquinolones (Ciprofloxacin, Levofloxacin) 5. Cephalosporins (Cefepime, Ceftazidime) 6. Sulbactam (Ampicillin/Sulbactam) Only the above antibiotics can meet the case definition. <strong>Note:</strong> There is no requirement to submit isolates to the DSHS Laboratory. Please contact a DSHS HAI Epidemiologist or the DSHS Laboratory for additional information on available laboratory support.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------</td>
<td>-------------------------------</td>
</tr>
</tbody>
</table>
| Multidrug-resistant organisms (MDRO) (See specific organism for definition) | See specific organism for definition (ie: CRE, MDR-A, VISA, VRSA) | - Isolation of mumps virus from clinical specimen, OR - Detection of mumps-virus-specific nucleic acid by PCR 
Note: An elevated serum amylase is not confirmatory for mumps. |
| **Mumps** 10180 | Acute parotitis or other salivary gland swelling lasting at least 2 days, or orchitis or oophoritis unexplained by another more likely diagnosis  
**Confirmed:** A case that has a positive mumps PCR result, OR positive mumps culture, AND either meets the clinical case definition, OR has aseptic meningitis, encephalitis, hearing loss, mastitis, or pancreatitis  
**Probable:** A case that meets the clinical case definition, AND - Has a positive test for serum anti-mumps immunoglobulin M (IgM) antibody, OR - Has an epidemiologic link to another probable or confirmed case or linkage to a group/community defined by public health during an outbreak of mumps | |
| Norovirus - [outbreaks only] 10996 | Norovirus infection usually presents as acute-onset vomiting, watery non-bloody diarrhea with abdominal cramps, and nausea. Low-grade fever also occasionally occurs, and vomiting is more common in children. Dehydration is the most common complication, especially among the young and elderly, and can require medical attention. Symptoms usually last 24 to 60 hours. Recovery is usually complete and there is no evidence of any serious long-term sequelae. Studies with volunteers given stool filtrates have shown that asymptomatic infection can occur in as many as 30% of infections, although the role of asymptomatic infection in norovirus transmission is not well understood.  
**Confirmed:** A clinically compatible case that is laboratory confirmed  
**Probable:** Norovirus can be established as the probable cause of an outbreak if: - The mean (or median) illness duration is 12 to 60 hours, AND - The mean (or median) incubation period is 24 to 48 hours, AND - More than 50% of people have vomiting, AND - No bacterial agent is found | - Polymerase chain reaction (PCR) can be used to test stool and emesis samples, as well as environmental swabs in special studies. (Identification of norovirus can best be made from stool specimens taken within 48 to 72 hours after onset of symptoms. Virus can sometimes be found in stool samples taken as late as 2 weeks after recovery.) OR - Detection of norovirus by direct and immune electron microscopy of fecal specimens, OR - Fourfold increase of norovirus antibodies in acute- and convalescent-phase blood samples 
Note: The etiology of GI outbreaks should be confirmed by submitting specimens to the DSHS Laboratory. Sequencing of norovirus strains found in clinical and environmental samples has greatly helped in conducting epidemiologic investigations. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novel coronavirus 10575</td>
<td>Severe acute respiratory syndrome (SARS) is a viral respiratory illness caused by a novel coronavirus. SARS was first identified in 2003 with the SARS-associated coronavirus (SARS-CoV). SARS-CoV has not been detected since the 2003 outbreak ended. However, in 2012 a new coronavirus causing an acute severe respiratory disease was detected in countries in or near the Arabian Peninsula—Middle East Respiratory Syndrome coronavirus (MERS-CoV). Symptoms of a novel coronavirus causing an acute respiratory syndrome may include fever and cough in addition to pneumonia or acute respiratory distress syndrome (ARDS). Clinical criteria for the specific novel coronavirus will be determined by the Centers for Disease Control and Prevention (CDC). Case definitions for confirmed, probable and suspect cases may be redefined based on the specific novel coronavirus. Additionally, CDC may require that patients undergo testing for alternate causes of infection including all clinically indicated tests for community acquired pneumonia, before being considered a probable or suspect case. <strong>Confirmed:</strong> A person who has laboratory confirmation of infection with a novel coronavirus  <strong>Probable:</strong> A person who meets the criteria for a suspect case, has absent or inconclusive* laboratory results for novel coronavirus infection, and is a close contact** of a laboratory confirmed case  <strong>Suspect:</strong> A person who meets the clinical criteria AND at least one of the following: 1) Has recent travel history to any country where a novel coronavirus has been recently identified in people 2) Has had close contact** with a symptomatic person who recently traveled to any country where a novel coronavirus has been recently identified in people 3) Is a member of a cluster of patients with severe acute respiratory illness (e.g., fever and pneumonia requiring hospitalization) of unknown etiology in which a novel coronavirus is being evaluated, in consultation with state and local health departments 4) Has a recent history of other relevant exposures, as defined by CDC  *Examples of laboratory results that may be considered inconclusive include a positive test on a single PCR target, a positive test with an assay that has limited performance data available, or a negative test on an inadequate specimen.  **See <a href="http://www.cdc.gov/coronavirus/mers/case-def.html">http://www.cdc.gov/coronavirus/mers/case-def.html</a> for current MERS Patient Under Investigation (PUI) criteria for suspect cases and for the definition of “close contact”.</td>
<td>• Identification of a novel coronavirus that is different from currently circulating human coronaviruses as confirmed by CDC’s laboratory, by public health laboratories using CDC-approved protocols for a specific novel strain, or by labs using an FDA-approved test for a specific novel strain  • Initial confirmation that a specific coronavirus represents a novel virus will be determined by the CDC  • Other laboratory confirmation criteria may be defined by CDC for the specific novel coronavirus</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Outbreaks, exotic diseases, and unusual expression of disease</td>
<td>In addition to specified reportable conditions, <strong>any outbreak, exotic disease, or unusual group expression of disease that may be of public health concern should be reported</strong> by the most expeditious means available.</td>
<td></td>
</tr>
<tr>
<td>Influenza, human isolates 11060</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norovirus 10996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streptococcal toxic-shock syndrome 11700</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Paragonimiasis 80664 | Paragonimiasis (lung fluke trematode) is transmitted by eating inadequately cooked crustaceans (primarily crayfish in the US) that are infected with the parasite. Disease most frequently involves the lungs. Initial signs and symptoms may be diarrhea and abdominal pain followed several days later by fever, chest pain, and fatigue. The symptoms may also include a dry cough, which later becomes productive with rusty-colored or blood-tinged sputum on exertion, and pleuritic chest pain. X-ray findings may include diffuse and/or segmental infiltrates, nodules, cavities, ring cysts and/or pleural effusions. Extrapulmonary disease is not uncommon, with flukes found in such sites as the CNS, subcutaneous tissues, intestinal wall, peritoneal cavity, liver, lymph nodes and genitourinary tract. Infection usually lasts for years, and the infected person may be asymptomatic. Paragonimiasis may be mistaken for tuberculosis, clinically and on chest X-rays.  
**Confirmed:** A case that is laboratory confirmed  
**Probable:** A clinically compatible case with  
- Detection of *Paragonimus* antibodies by CF, EIA, or immunoblot, or  
- Positive skin test for *Paragonimus* or  
- History of ingestion of inadequately cooked crustaceans and marked eosinophilia with total WBC count in the normal range or supportive x-ray findings |  
- Microscopic identification of *Paragonimus* eggs in feces, sputum, pleural fluid, CSF, or pus,  
**OR**  
- Identification of worms or eggs in biopsies of pulmonary, cerebral, subcutaneous, or intra-abdominal nodules or cystic lesions |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Pertussis** | A cough illness lasting at least 14 days AND at least one of the following additional symptoms and without other apparent cause:  
  - Paroxysmal coughing. **OR**  
  - Inspiratory "whoop." **OR**  
  - Post-tussive vomiting. **OR**  
  - **If under 1 year old,** apnea with or without cyanosis  
  **Confirmed:** Must meet one of the following criteria:  
  - A person with an acute cough illness of any duration who is culture positive, **OR**  
  - A person who meets the clinical case definition and is PCR positive, **OR**  
  - A person who meets the clinical case definition and is epidemiologically linked to a laboratory-confirmed case.  
  **Probable:** A patient must meet one of the following criteria (in the absence of a more likely diagnosis):  
  - A person who meets the clinical case definition but is not laboratory confirmed (not tested, tests are negative or tested by serology or DFA), and is not epidemiologically linked to a laboratory-confirmed case  
  - **Is an infant** with an acute cough illness of any duration with at least one of the additional symptoms from the clinical criteria AND is either  
    - PCR positive, **OR**  
    - Epidemiologically linked to a laboratory-confirmed case  
  Note: An illness meeting the clinical case definition should be classified as "probable" rather than "confirmed" if it occurs in a patient who has contact with an infant aged <1 year who is PCR positive for pertussis and has ≥1 sign or symptom and cough duration <14 days (classified as "probable" case). |  
  - Isolation (culture) of *Bordetella pertussis* from a clinical specimen, **OR**  
  - Positive polymerase chain reaction (PCR) assay for *Bordetella pertussis*  
  Note: Because *B. pertussis* can be difficult to culture, a negative culture result does not rule out pertussis. Negative PCR results do not require investigation unless reported as a suspected case by a healthcare provider. Direct fluorescent antibody (DFA) staining of a patient’s specimen and serological laboratory results (pertussis IgA, IgG or IgM) are **NOT** considered confirmatory for pertussis, but should be investigated as soon as possible. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Plague** 10440 | Plague is transmitted to humans by fleas or by direct exposure to infected tissues or respiratory droplets. The disease is characterized by fever, chills, headache, malaise, prostration, and leukocytosis that manifests in one or more of the following principal clinical forms:  
  - Regional lymphadenitis (bubonic plague), OR  
  - Septicemia without an evident bubo (septicemic plague), OR  
  - Pneumonia, resulting from hematogenous spread in bubonic or septicemic cases (secondary pneumonic plague) or inhalation of infectious droplets (primary pneumonic plague), OR  
  - Pharyngitis and cervical lymphadenitis resulting from exposure to larger infectious droplets or ingestion of infected tissues (pharyngeal plague)  
  **Confirmed**: A clinically compatible case with a confirmatory laboratory result  
  **Probable**: A clinically compatible case with a presumptive laboratory result  
  - Elevated serum antibody titer(s) to *Y. pestis* fraction 1 (F1) antigen (without documented four-fold or greater change) in a patient with no history of plague vaccination, OR  
  - Detection of F1 antigen in a clinical specimen by fluorescent assay  
  **Suspect**: A clinically compatible case without presumptive or confirmatory laboratory results  
  | Isolation of *Yersinia pestis* from a clinical specimen,  
  OR  
  Four-fold or greater change in serum antibody titer to *Y. pestis* F1 antigen  
  For isolates of other species of *Yersinia*, see [Yersiniosis](#)  
  Note: As required by [TAC](#), all *Y. pestis* isolates must be submitted to the DSHS Laboratory. |
| **Poliomyelitis, paralytic** 10410 | Acute onset of a flaccid paralysis of one or more limbs with decreased or absent tendon reflexes in the affected limbs, without other apparent cause, and without sensory or cognitive loss  
  **Confirmed***: A case that meets the clinical case definition in which the patient has a neurological deficit 60 days after onset of initial symptoms, has died, or has unknown follow-up status  
  **Probable***: A case that meets the clinical case definition  
  *Note: All suspected cases of paralytic poliomyelitis are reviewed by a panel of expert consultants at the Centers for Disease Control and Prevention (CDC) before final case classification occurs.  
  | Isolation of poliovirus type 1, 2, or 3 from a clinical specimen (stool or CSF) |
| **Poliovirus infection, nonparalytic** 10405 | Most poliovirus infections are asymptomatic or cause mild febrile disease.  
  **Confirmed**: Laboratory confirmed poliovirus infection in a person without symptoms of paralytic poliomyelitis  
<p>| Poliovirus isolate identified in an appropriate clinical specimen, with confirmatory typing and sequencing performed by the CDC Poliovirus Laboratory |
| <strong>Primary amebic meningoencephalitis (PAM)</strong> | See <a href="#">Amebic meningoencephalitis (PAM)</a> |</p>
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Prion diseases such as Creutzfeldt-Jakob disease (CJD) 80060 (continued on next page) | Creutzfeldt-Jakob disease (CJD) is a human prion disease described as rapidly progressive, invariably fatal, and neurodegenerative. Human prion diseases include sporadic forms of disease (sporadic CJD, sporadic Fatal Insomnia, and Variably Protease-Sensitive Prionopathy), genetic or familial forms of disease (familial CJD, Familial Fatal Insomnia, and Gerstmann-Sträussler-Scheinker disease) and acquired forms of disease (iatrogenic CJD, Kuru, and variant CJD). Classical sporadic CJD presentation consists of rapidly progressive dementia, visual abnormalities, myoclonus, or cerebellar dysfunction (where both balance abnormalities and muscle incoordination are seen which commonly present as gait, speech, and swallowing disorders). Most patients eventually develop pyramidal and extrapyramidal dysfunction such as abnormal reflexes (hyperreflexia), spasticity, tremors, and rigidity. Akinetic mutism appears late in the disease. Median duration of illness is 4 months; the duration of illness rarely exceeds 12 months. | Confirmatory Laboratory Criteria - sporadic, genetic, & iatrogenic CJD  
Diagnosis by standard neuropathological techniques AND/OR  
Immunohistocytochemistry AND/OR  
Western blot AND/OR  
Presence of scrapie-associated fibrils |
|                | For purposes of surveillance, for prion diseases such as CJD notification also includes sporadic fatal insomnia (sFI), Variably Protease-Sensitive Prionopathy (VPSPr), fatal familial insomnia (FFI), Gerstmann-Sträussler-Scheinker (GSS) disease, Kuru, and any novel prion disease affecting humans.  
Sporadic CJD (sCJD):  
Confined: Satisfactory confirmatory test findings on autopsy or biopsy of brain tissue  
Probable: Neuropsychiatric disorder* AND positive RT-QuIC in CSF or other tissues OR  
Rapidly progressive dementia AND at least two of the following clinical features:  
a) Myoclonus  
b) Visual or Cerebellar Signs  
c) Pyramidal/Extrapyramidal Signs  
d) Akinetic Mutism  
AND satisfying at least 1 of the supportive laboratory criteria,  
AND absence of routine investigations indicating an alternative diagnosis  
Possible: Progressive dementia AND at least two of the following clinical features:  
a) Myoclonus  
b) Visual or Cerebellar Signs  
c) Pyramidal/Extrapyramidal Signs  
d) Akinetic mutism  
AND a duration of illness < 2 years,  
AND the absence of positive supportive laboratories,  
AND the absence of routine investigations indicating an alternative diagnosis  
* Neuropsychiatric disorder may be defined as a “disorder of thought or behavior that is directly related to abnormalities of the central nervous system”. | Supportive Laboratory Criteria - sporadic, genetic, & iatrogenic CJD  
- **CSF 14-3-3 protein**: ELISA reported as elevated or above normal limits or Western blot reported positive. If 14-3-3 protein is the only supportive test used in determining classification, then duration of illness must be < 2 years.  
- **RT-QuIC**: Positive  
- **Tau protein**: Positive  
- **EEG**: Reported as “typical of” or “consistent with” sporadic CJD or the report indicates the presence of generalized bi- or triphasic “periodic sharp wave complexes” (PSWC) at a frequency of 1-2 per second. No limitation on duration of illness.  
- **MRI**: High signal abnormalities in the caudate nucleus and/or putamen OR in at least two cortical regions (temporal, parietal, occipital) on diffusion-weighted imaging (DWI) or fluid attenuated inversion recovery (FLAIR). No limitation on duration of illness. |

(Continued on next page— see Exclusion Criteria.)
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prion diseases such as Creutzfeldt-Jakob disease (CJD) (continued on next page)</td>
<td>Sporadic Fatal Insomnia (sFI): Classification follows FFI criteria but is not epi-linked (no 1st degree relatives with evidence of disease). On pathology the glycosylation pattern is similar to sCJD rather than FFI.</td>
<td>Exclusion Criterion: On neurohistopathological analysis of whole brain autopsy tissue, the absence of findings consistent with prion disease (negative results) is sufficient to “rule out” possible and probable cases and reclassify as “Not a Case”.</td>
</tr>
<tr>
<td></td>
<td>Variously Protease-Sensitive Prionopathy (VPSPr): <strong>Confirmed:</strong> Meets the confirmed sCJD classification criteria AND the brain neurohistopathological report indicates a variably protease sensitive prionopathy pathology.</td>
<td>Notes: Whole brain autopsy and neuropathology is the only way to confirm or rule-out prion disease. Biopsy tissue can only confirm presence of prion disease but is not sufficient to rule-out prion disease. Autopsy or postmortem biopsy (when autopsy is not possible) is strongly encouraged, while biopsy on living patients should be reserved for diagnosing treatable diseases. <strong>The National Prion Disease Pathology Surveillance Center (NPDPSC)</strong> performs analysis on CSF, blood, and brain tissue. They provide free transport, shipping, and autopsy services for suspected cases of CJD (the family must initiate contact). Physicians are strongly encouraged to confirm the diagnosis of CJD by discussing &amp; arranging autopsy with the NPDPSC and family members. Autopsy is “highly suggested” for all cases with onset age under 55 years or physician diagnosed CJD.</td>
</tr>
<tr>
<td></td>
<td>Familial CJD (fCJD): A classification of confirmed or probable requires that the criteria for sCJD are met plus the presence of a confirmed or probable CJD classification in a first degree relative AND/OR a neuropsychiatric disorder plus fCJD-specific PRNP gene mutation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Familial Fatal Insomnia (FFI): Meets the fCJD classification criteria AND pathology demonstrates thalamic atrophy AND/OR presence of a FFI-specific PRNP gene mutation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gerstmann-Sträussler-Scheinker disease (GSS): A family with dominantly inherited progressive ataxia AND/OR dementia with one of a variety of PRNP mutations. Confirmatory Laboratory Criteria: Encephalo(myelo)pathy with multi-centric PrP plaques AND thalamic degeneration WITH a background of variable spongiform change in cerebrum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iatrogenic CJD (iCJD): <strong>Confirmed:</strong> Progressive cerebellar syndrome in a recipient of human cadaveric-derived pituitary hormone OR meets sCJD criteria WITH a recognized exposure risk (e.g., dura matter grafts)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kuru: Spongiform encephalopathy epidemiologically linked to the Fore population of Papua New Guinea</td>
<td></td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------</td>
<td>-------------------------------</td>
</tr>
</tbody>
</table>
| Prion diseases such as Creutzfeldt-Jakob disease (CJD) | **Variant CJD (vCJD)** is characterized by epidemiologic exposure to the causative agent of bovine spongiform encephalopathy (BSE) through consumption of contaminated meat, a prolonged incubation period of ~ 8 years (possibly decades), and presence of a neuropsychiatric disease that is progressive and invariably fatal. Median age at onset of symptoms is 28 years. Clinical presentation: early psychiatric symptoms (anxiety/depression), paraesthesia, delayed development of neurologic signs (> 4 months), and duration of illness lasting over 6 months. **Confirmed:** Confirmatory laboratory criteria are met **Suspect**: The following criteria are met:  
  a) Current age or age at death < 55 years (a brain autopsy is recommended, however, for all physician-diagnosed CJD cases)  
  b) Psychiatric symptoms at illness onset AND/OR persistent painful sensory symptoms (frank pain and/or dysesthesia)  
  c) Dementia AND development > 4 months after illness onset of at least two of the following five neurologic signs: poor coordination, myoclonus, chorea, hyperreflexia, or visual signs. (If persistent painful sensory symptoms exist, > 4 months delay in the development of the neurologic signs is not required.)  
  d) A normal or an abnormal EEG, BUT NOT the diagnostic EEG changes often seen in classic CJD  
  e) Duration of illness of over 6 months  
  f) Routine investigations of the patient do not suggest an alternative, non-CJD diagnosis  
  g) No history of receipt of cadaveric human pituitary growth hormone or a dura mater graft  
  h) No history of CJD in a first degree relative or PRNP gene mutation in the patient OR  
  ▪ Presence of “bilateral pulvinar high signal” or “pulvinar sign” or “symmetrical, bilateral high signal in the posterior thalamic nuclei” on MRI, AND  
  ▪ Presence of all of the following: a progressive neuropsychiatric disorder, d, e, f, & g of the above criteria  
  AND four of the following five criteria:  
  ▪ Early psychiatric symptoms (anxiety, apathy, delusions, depression, withdrawal)  
  ▪ Persistent painful sensory symptoms (frank pain and/or dysesthesia, and/or paraesthesia)  
  ▪ Ataxia  
  ▪ Myoclonus or chorea or dystonia  
  ▪ Dementia  
  *A history of possible exposure to bovine spongiform encephalopathy (BSE) such as residence or travel to a BSE-affected country after 1980 increases the index of suspicion for a variant CJD diagnosis. |

**Confirmatory Laboratory Criteria – vCJD (brain tissue)**  
▪ Numerous widespread kuru-type amyloid plaques surrounded by vacuoles in both the cerebellum and cerebrum (i.e., florid plaques) AND  
▪ Spongiform change and extensive prion protein deposition shown by immunohistochemistry throughout the cerebellum and cerebrum  

**Supportive Laboratory Criteria - vCJD**  
▪ EEG with normal or abnormal findings BUT WITHOUT findings consistent with sporadic CJD (absence of “periodic sharp wave complexes” - PSWC), OR EEG not reported or performed  
▪ Presence of “bilateral pulvinar high signal” OR “pulvinar sign” OR “symmetrical, bilateral high signal in the posterior thalamic nuclei” on MRI (relative to other deep gray-matter nuclei)  

Notes: Whole brain autopsy and neuropathology is the only way to confirm or rule-out prion disease. Biopsy tissue can only confirm presence of prion disease but is not sufficient to rule-out prion disease. Autopsy or postmortem biopsy (when autopsy is not possible) is strongly encouraged, while biopsy on living patients should be reserved for diagnosing treatable diseases. The National Prion Disease Pathology Surveillance Center (NPDPSC) performs analysis on CSF, blood, and brain tissue. They provide free transport, shipping, and autopsy services for suspected cases of CJD (the family must initiate contact). Physicians are strongly encouraged to confirm the diagnosis of CJD by discussing & arranging autopsy with the NPDPSC and family members. Autopsy is “highly suggested” for all cases with onset age under 55 years or physician diagnosed CJD.
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Q Fever, acute**<br>10257 | Q fever is a zoonotic disease caused by *Coxiella burnetii*. Asymptomatic infection occurs in approximately half of those infected. Exposure to Q fever is usually via aerosol, and the source can be unknown (especially for chronic infection). Exposure can be associated with goats, sheep, or other livestock, but direct contact with animals is not required, and variable incubation periods can be dose dependent. Acute infection, if symptomatic, is characterized by acute onset of fever accompanied by rigors, myalgia, malaise, and severe retrobulbar headache, and can include fatigue, night sweats, dyspnea, confusion, nausea, diarrhea, abdominal pain, vomiting, non-productive cough, or chest pain. Acute hepatitis, atypical pneumonia, and meningoencephalitis may be present with severe disease. Pregnant women are at risk for fetal death and abortion. Clinical laboratory findings can include elevated liver enzyme levels, leukocytosis, and thrombocytopenia.  
**Confirmed:** A clinically compatible case that is laboratory confirmed  
**Probable:** A clinically compatible case with a single supportive IgG-specific antibody titer to *C. burnetii* Phase II antigen of $\geq 1:128$ by IFA, OR serological evidence of elevated IgG or IgM antibody titer to *C. burnetii* by ELISA, dot-ELISA, or LA  
■ Serological evidence of a four-fold change in IgG-specific antibody titer to *C. burnetii* Phase II antigen by IFA between paired serum samples (one taken during the first week of illness and a second 3-6 weeks later),  
**OR**  
■ Detection of *C. burnetii* DNA in a clinical specimen by PCR,  
**OR**  
■ Demonstration of *C. burnetii* antigen in a clinical specimen by IHC,  
**OR**  
■ Isolation of *C. burnetii* from a clinical specimen in cell culture | |
| **Q Fever, chronic**<br>10258 | Chronic Q fever is characterized by a *Coxiella burnetii* infection that persists for more than 6 months. Potentially fatal endocarditis can evolve months to years after acute infection, particularly in persons with underlying valvular disease. Infections of aneurysms and vascular prostheses have been reported. Immunocompromised individuals are particularly susceptible. Rare cases of chronic hepatitis without endocarditis, osteomyelitis, osteoarthritis, and pneumonitis have been described.  
*Clinical evidence:* Chronic hepatitis, osteomyelitis, osteoarthritis, or pneumonitis (in the absence of other known etiology); suspected infection of a vascular aneurysm or vascular prosthesis; or newly recognized, culture-negative endocarditis (particularly in a patient with previous valvulopathy or a compromised immune system).  
**Confirmed:** A clinically compatible (meets clinical evidence criteria) case of chronic illness that is laboratory confirmed  
**Probable:** A clinically compatible case of chronic illness with an antibody titer to *C. burnetii* Phase I IgG antigen that is $\geq 1:128$ and $< 1:800$ by IFA | **Serological evidence of IgG antibody to *C. burnetii* Phase I antigen of $\geq 1:800$ by IFA**  
**OR**  
■ Detection of *C. burnetii* DNA in a clinical specimen by PCR,  
**OR**  
■ Demonstration of *C. burnetii* antigen in a clinical specimen by IHC,  
**OR**  
■ Isolation of *C. burnetii* from a clinical specimen in cell culture |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabies, animal 10340</td>
<td>All warm-blooded animals, including humans, are susceptible to rabies. In Texas, skunks, bats, coyotes, and foxes are the most commonly infected animals. Domestic dogs, cats, and livestock usually acquire rabies infections from wild animals. Medical authorities distinguish between &quot;furious&quot; and &quot;dumb&quot; rabies on the basis of clinical signs. In the furious variety, the &quot;mad dog&quot; symptoms are pronounced. The animal is irritable and will snap and bite at real or imaginary objects. It can run for miles and attack anything in its path. The animal is extremely vicious and violent. Paralysis sets in shortly, usually affecting the hind legs first. Death follows four to seven days after the onset of clinical signs. In dumb rabies, the prominent symptoms are drowsiness and paralysis of the lower jaw. The animal can appear to have a bone lodged in its throat, sometimes causing owners to force open an animal's mouth to investigate and become unwittingly exposed to rabies. Animals with dumb rabies have no tendency to roam but will snap at movement. They are completely insensitive to pain, and usually become comatose and die from three to ten days after first symptoms appear.</td>
<td>• A positive DFA test (preferably performed on central nervous system tissue), OR • Isolation of rabies virus (in cell culture or in a laboratory animal) OR • Detection of Lyssavirus viral RNA using RT-PCR in saliva, CSF, or tissue OR • Detection of rabies virus antigens in central nervous system tissues by IHC</td>
</tr>
<tr>
<td>Rabies, human 10460</td>
<td>Rabies is an acute encephalomyelitis that almost always progresses to coma or death within 10 days after the first symptom.</td>
<td>• Detection of Lyssavirus antigens in a clinical specimen (preferably the brain or the nerves surrounding hair follicles in the nape of the neck) by DFA, OR • Isolation (in cell culture or in a laboratory animal) of Lyssavirus from saliva, CSF, or central nervous system tissue, OR • Identification of Lyssavirus specific antibody (i.e., by IFA or complete rabies virus neutralization at 1:5 dilution) in the CSF, OR • Identification of Lyssavirus specific antibody (i.e., by IFA or complete rabies virus neutralization at 1:5 dilution) in the serum of an unvaccinated person, OR • Detection of Lyssavirus viral RNA using RT-PCR in saliva, CSF, or tissue</td>
</tr>
</tbody>
</table>

**Confirmed:** A case that is laboratory confirmed

**Note:** Laboratory confirmation by all of the methods listed under “Lab Confirmation Tests” is strongly recommended.
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rickettsiosis, unspecified</strong>&lt;br&gt;65466</td>
<td>Flea-borne typhus and spotted fever group rickettsioses (SFGR) are a group of vector-borne infections caused by some members of the genus <em>Rickettsia</em>. These infections can be difficult to differentiate clinically and serologically (due to antibody cross-reactivity). Illness is characterized by acute onset of fever that may be accompanied by headache, malaise, myalgia, nausea, vomiting, anorexia, and/or rash. &lt;br&gt;<em>Clinical evidence:</em> Acute onset of fever and one or more of the following: rash, headache, nausea, vomiting, anorexia, myalgia, anemia, thrombocytopenia, or any hepatic transaminase elevation. &lt;br&gt;<em>Probable:</em> Clinically compatible case (meets clinical evidence criteria) with serological evidence of elevated IgG and/or IgM antibody reactive with spotted fever and typhus group antigens by IFA (serologic titers of $\geq 1:128$) that cannot be classified as either flea-borne typhus or SFGR and does not have a more likely clinical explanation. &lt;br&gt;Note: For “Rickettsiosis, unspecified,” an undetermined case can only be classified as probable. &lt;br&gt;See <em>Rickettsia Classification</em></td>
<td>Not applicable – see note</td>
</tr>
<tr>
<td><strong>Rubella</strong>&lt;br&gt;10200</td>
<td>An illness that has all the following characteristics: Acute onset of generalized maculopapular rash; temperature $\geq 99^\circ F (37.2^\circ C)$, if measured; and arthralgia/arthritis, lymphadenopathy, or conjunctivitis. &lt;br&gt;<em>Confirmed:</em> A case that is clinically compatible and is laboratory confirmed or epidemiologically linked to a laboratory-confirmed case. &lt;br&gt;Note: Serum rubella IgM test results that are false positives have been reported in persons with other viral infections (e.g., acute infection with Epstein-Barr virus [infectious mononucleosis], recent cytomegalovirus infection, and parvovirus infection) or in the presence of rheumatoid factor. Patients who have laboratory evidence of recent measles infection are excluded.</td>
<td>- Isolation of rubella virus, &lt;br&gt;<strong>OR</strong>&lt;br&gt; - Significant rise between acute- and convalescent-phase titers in serum rubella immunoglobulin G (IgG) antibody level* by any standard serologic assay, &lt;br&gt;<strong>OR</strong>&lt;br&gt; - Positive serologic test for rubella-specific immunoglobulin M (IgM) antibody* not otherwise ruled out by more specific testing in a public health laboratory, &lt;br&gt;<strong>OR</strong>&lt;br&gt; - Detection of rubella-virus-specific nucleic acid by PCR &lt;br&gt;*Not explained by MMR vaccination during the previous 6-45 days.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Rubella, congenital syndrome** | An illness of newborns resulting from rubella infection *in utero* and characterized by signs or symptoms from the following categories:  
  a) Cataracts/congenital glaucoma, congenital heart disease (most commonly patent ductus arteriosus or peripheral pulmonary artery stenosis), hearing loss, or pigmentary retinopathy  
  b) Purpura, hepatosplenomegaly, jaundice, microcephaly, developmental delay, meingoencephalitis, or radiolucent bone disease  
 **Confirmed:** A clinically consistent case that is laboratory confirmed  
 **Probable:** A case that is not laboratory confirmed; that has any two complications listed in (a) of the clinical case definition or one complication from (a) and one from (b); and lacks evidence of any other etiology | ▪ Isolation of rubella virus,  
 ▪ Demonstration of rubella-specific immunoglobulin M (IgM) antibody,  
 ▪ 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),  
 ▪ Detection of rubella-virus-specific nucleic acid by PCR |
| **Salmonella Paratyphi**        | An illness caused by *Salmonella* Paratyphi serotypes A, B (tartrate negative), and C that is often characterized by insidious onset of fever, diarrhea, abdominal cramps, constipation, anorexia, and relative bradycardia.  
 **Confirmed:** Confirmatory laboratory criteria are met  
 **Probable:**  
 ▪ A clinically compatible case with *S. Paratyphi* A, B (tartrate negative), or C detected by use of culture independent laboratory methods (non-culture based), OR  
 ▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis | ▪ Isolation of *S. Paratyphi* A, B (tartrate negative), or C from a clinical specimen |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Salmonella Typhi</strong>&lt;br&gt;50267</td>
<td>An illness caused by <em>Salmonella</em> Typhi that is often characterized by insidious onset of fever, diarrhea, abdominal cramps, constipation, anorexia, and relative bradycardia. &lt;br&gt;&lt;br&gt;<em>Confirmed:</em> Confirmatory laboratory criteria are met &lt;br&gt;&lt;br&gt;<em>Probable:</em> &lt;br&gt;▪ A clinically compatible case with <em>S.</em> Typhi detected by use of culture independent laboratory methods (non-culture based), <strong>OR</strong> &lt;br&gt;▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis &lt;br&gt;&lt;br&gt;Notes: &lt;br&gt;▪ Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases that should be reported. &lt;br&gt;▪ Carriage of <em>S.</em> Typhi can be prolonged. A case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different serotype.</td>
<td>▪ Isolation of <em>S.</em> Typhi from blood, stool, or other clinical specimen</td>
</tr>
<tr>
<td><strong>Salmonellosis, non-Paratyphi/non-Typhi</strong>&lt;br&gt;50265</td>
<td>An illness of variable severity commonly manifested by diarrhea, fever, abdominal pain, nausea, and sometimes vomiting. Asymptomatic infections can occur, and the organism can cause extraintestinal infections. &lt;br&gt;&lt;br&gt;<em>Confirmed:</em> A case that meets the laboratory criteria for diagnosis. When available, <em>Salmonella</em> serotype characterization should be reported &lt;br&gt;&lt;br&gt;<em>Probable:</em> &lt;br&gt;▪ A case with <em>Salmonella</em> sp. (excluding <em>S.</em> Typhi and <em>S.</em> Paratyphi [A, B (tartrate negative), and C]) detected by use of culture independent laboratory methods (non-culture based), <strong>OR</strong> &lt;br&gt;▪ A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis &lt;br&gt;&lt;br&gt;Notes: &lt;br&gt;▪ A case with isolation of <em>S.</em> Paratyphi B (tartrate positive) from a clinical specimen should be reported as a salmonellosis, non-Paratyphi/non-Typhi case. &lt;br&gt;▪ Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases that should be reported. &lt;br&gt;▪ A case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different serotype.</td>
<td>▪ Isolation of <em>Salmonella</em> (excluding <em>S.</em> Typhi and <em>S.</em> Paratyphi [A, B (tartrate negative), and C])* from a clinical specimen &lt;br&gt;Notes: &lt;br&gt;<strong>S. Typhi</strong> is reportable as Salmonella Typhi. &lt;br&gt;<strong>S. Paratyphi</strong> is reportable as Salmonella Paratyphi.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------</td>
<td>-----------------------------</td>
</tr>
</tbody>
</table>
| Salmonellosis 11000 | For 2019, see *Salmonella Paratyphi* and *Salmonellosis, non-Paratyphi/non-Typhi*  
Note: For 2018 Salmonellosis shall be retrospectively recoded under Salmonella, Paratyphi 2018 (50236) and Salmonella, non-Paratyphi/non-Typhi 2018 (50242) with case criteria corresponding to Salmonella Paratyphi and Salmonellosis, non-Paratyphi/non-Typhi respectively. | - Isolation of Shiga toxin-producing *Escherichia coli* from a clinical specimen  
- *Escherichia coli* O157:H7 isolates are assumed to be Shiga toxin-producing. Therefore, isolation alone qualifies a case as “confirmed.”  
- *Escherichia coli* non-O157:H7 isolates must also have Shiga toxin-production verified in order to qualify the case status as “confirmed.” Shiga toxin can be demonstrated by EIA or PCR testing.  
- EIA and/or PCR positive results for Shiga toxin-production, in the absence of an isolate, can only qualify a case as “probable.”  

Note: As required by TAC, all *E.coli* O157:H7, isolates or specimens from cases where Shiga-toxin activity is demonstrated must be submitted to the DSHS Laboratory. |
| Shiga toxin-producing *Escherichia coli* (STEC) 11563 | An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness can be complicated by hemolytic uremic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP); asymptomatic infections also can occur and the organism can cause extraintestinal infections.  
**Confirmed:** A case that meets the laboratory criteria for diagnosis; when available, O and H antigen serotype characterization should be reported  
**Probable:**  
- A case with isolation of *E. coli* O157 from a clinical specimen, without confirmation of H antigen or Shiga toxin-production, **OR**  
- A clinically compatible case that is epidemiologically linked to a confirmed or probable case, **OR**  
- Identification of an elevated antibody titer to a known Shiga toxin-producing *E. coli* serotype from a clinically compatible case, **OR**  
- Identification of Shiga toxin in a specimen from a clinically compatible case without the isolation of the Shiga toxin-producing *E. coli*, **OR**  
- A clinically compatible illness in a person with detection of Shiga toxin or Shiga toxin genes in a clinical specimen using a CIDT and no known isolation of *Shigella* from a clinical specimen, **OR**  
- A clinically compatible illness in a person with detection of *E. coli* O157 or STEC/EHEC in a clinical specimen using a CIDT  
**Suspect:** A case with no known clinical compatibility and detection of  
- Shiga toxin or Shiga toxin genes in a clinical specimen using a CIDT and no known isolation of *Shigella* from a clinical specimen, **OR**  
- Detection of *E. coli* O157 or STEC/EHEC in a clinical specimen using a CIDT  

Notes:  
- Cases meeting confirmed or probable criteria for both STEC and **HUS** should be reported under each condition.  
- A case should not be counted as a new case if a positive laboratory result is reported within 180 days of a previously reported positive laboratory result in the same individual, unless additional information is available indicating a separate infection. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shigello</strong>sis 11010</td>
<td>An illness of variable severity characterized by diarrhea, fever, nausea, cramps, and tenesmus. Asymptomatic infections can occur. <strong>Confirmed:</strong> A case that meets the laboratory criteria for diagnosis. When available, <em>Shigella</em> serogroup or species and serotype characterization should be reported. <strong>Probable:</strong>  - A case with <em>Shigella</em> spp. or <em>Shigella</em>/EIEC detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), <strong>OR</strong>  - A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis</td>
<td><strong>Isolation of <em>Shigella</em> from a clinical specimen</strong></td>
</tr>
<tr>
<td></td>
<td>Notes:  - Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases that should be reported.  - A case should not be counted as a new case if laboratory results were reported within 90 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different serotype.</td>
<td></td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Smallpox 11800 | An illness with acute onset of fever ≥101°F (≥38.3°C) followed by a rash characterized by firm, deep seated vesicles or pustules in the same stage of development without other apparent cause.  
Confirmed: A case of smallpox that is laboratory confirmed, or a case that meets the clinical case definition and is epidemiologically linked to a laboratory confirmed case  
Probable: A case that meets the clinical case definition without laboratory confirmation or epidemiological link to a confirmed case, OR a case with an atypical presentation of smallpox (e.g., hemorrhagic type, flat type, and variola sine eruptione) that has an epidemiological link to a confirmed case of smallpox  
(Detailed clinical description is available on the CDC web site, see https://www.cdc.gov/smallpox/clinicians/clinical-disease.html.  
Suspect: A case with a generalized, acute vesicular or pustular rash illness with fever preceding development of rash by 1-4 days  
Exclusion Criteria: A case can be excluded as a suspect or probable smallpox case if an alternative diagnosis fully explains the illness or appropriate clinical specimens are negative for laboratory criteria for smallpox.  
Note: The smallpox case definition above is to be used only during post-event surveillance. For pre-event surveillance purposes, where the likelihood of smallpox occurring is considered to be extremely low, the suggested approach to surveillance relies on a highly specific clinical case definition, which is focused on identifying a classic case (ordinary type) of smallpox. In the absence of known smallpox disease, the predictive value of a positive smallpox diagnostic test is extremely low, close to zero; therefore, testing to rule out smallpox should be limited to cases that fit the clinical case definition in order to lower the risk of obtaining a false positive test result.  
|               | • Polymerase chain reaction (PCR) identification of variola DNA in a clinical specimen,  
OR  
• Isolation of smallpox (variola) virus from a clinical specimen (Level D laboratory only; confirmed by variola PCR)  
Note: Laboratory diagnostic testing for variola virus should be conducted in a CDC Laboratory Response Network (LRN) laboratory utilizing LRN-approved PCR tests and protocols for variola virus. Initial confirmation of a smallpox outbreak requires additional testing at CDC.  
Generic orthopox PCR and negative stain electron microscopy (EM) identification of a pox virus in a clinical specimen are suggestive of an orthopox virus infection but not diagnostic for smallpox.                                                                                                                                                                                                                                                                                                                                 |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Spotted fever group rickettsioses 10250** | Spotted fever group rickettsioses (SFRG) are a group of tick-borne infections caused by some members of the genus *Rickettsia*. The most well-known SFRG is Rocky Mountain spotted fever (RMSF), an illness caused by *Rickettsia rickettsii*. Disease onset for RMSF averages one week following a tick bite. Illness is characterized by acute onset of fever and can be accompanied by headache, malaise, myalgia, nausea/vomiting, or neurologic signs; a macular or maculopapular rash may appear 4-7 days following onset in many (~80%) patients, often present on the palms and soles. RMSF can be fatal in as many as 20% of untreated cases, and severe fulminant disease can occur. In addition to RMSF, human illness associated with other spotted fever group (SFG) *Rickettsia* species, including infection with *R. parkeri*, has also been reported. In these patients, clinical presentation appears similar to, but can be milder than, RMSF; the presence of an eschar at the site of tick attachment has been reported for some other SFRG.  
*Clinical evidence:* Any reported acute onset of fever and one or more of the following: rash, eschar, headache, myalgia, anemia, thrombocytopenia, or any hepatic transaminase elevation.  
*Confirmed:* Clinically compatible case (meets clinical evidence criteria) that is laboratory confirmed  
*Probable:* Clinically compatible case (meets clinical evidence criteria) with serological evidence of elevated IgG or IgM antibody reactive with *R. rickettsii* or other spotted fever group antigen* by IFA (serologic titer of ≥1:128) and the absence of a more likely clinical explanation  
*Notes:*  
• Because antibodies for rickettsial diseases can be cross-reactive, specimens should be tested against a panel* of *Rickettsia* antigens, including, at a minimum, *R. rickettsii* and *R. typhi*, to differentiate between SFG and non-SFG *Rickettsia* spp. In addition, according to CDC, rickettsial IgM tests lack specificity (resulting in false positives); thus, IgG titers are considered to be much more reliable.  
• A case should not be counted as new if the case has ever previously been reported for the same condition.  
*Specimens can be forwarded to the DSHS Serology lab for rickettsial panel testing.*  
See *Rickettsia Classification* | • Serological evidence of an elevation (four-fold change) in IgG-specific antibody titer reactive with *R. rickettsii* or other SFG** antigen by IFA test in acute and convalescent specimens ideally taken at least 2 weeks apart,  
**OR**  
• Detection of *R. rickettsii* or other SFG** DNA in a clinical specimen by PCR assay,  
**OR**  
• Demonstration of SFG** antigen in a biopsy/autopsy specimen by IHC,  
**OR**  
• Isolation of *R. rickettsii* or other SFG *Rickettsia*** from a clinical specimen in cell culture  
**Spotted fever group *Rickettsia* included in SFRG are *R. aeschlimanni*, *R. africae*, *R. australis*, *R. conorii*, *R. heliogiangensis*, *R. helvetica*, *R. honei*, *R. japonica*, *R. marmionii*, *R. massiliae*, *R. parkeri*, *R. rickettsii*, *R. sibirica*, *R. sibirica mongolotimonae*, and *R. slovaca*. Spotted fever group species excluded from this condition are *R. felis* and *R. akari*. |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptococcal toxic shock syndrome <em>(Outbreaks only)</em></td>
<td>Streptococcal toxic-shock syndrome (STSS) is a severe illness associated with invasive or noninvasive group A streptococcal (<em>Streptococcus pyogenes</em>) infection. STSS may occur with infection at any site but most often occurs in association with infection of a cutaneous lesion. Signs of toxicity and a rapidly progressive clinical course are characteristic, and the case fatality rate may exceed 50%. An illness with the following clinical manifestations: 1) Hypotension defined by a systolic blood pressure less than or equal to 90 mm Hg for adults or less than the fifth percentile by age for children aged less than 16 years, <strong>AND</strong> 2) Multi-organ involvement characterized by <strong>two or more</strong> of the following:  - <em>Renal Impairment:</em> 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.  - <em>Coagulopathy:</em> Platelets less than or equal to 100,000/mm³ (less than or equal to 100 x 10⁹/L) or disseminated intravascular coagulation, defined by prolonged clotting times, low fibrinogen level, and the presence of fibrin degradation products  - <em>Liver Involvement:</em> 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.  - <em>Acute Respiratory Distress Syndrome:</em> 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  <em>Confirmed:</em> A case that meets the clinical case definition and is laboratory confirmed with isolation of group A <em>Streptococcus</em> from a normally sterile site (e.g., blood or cerebrospinal fluid or, less commonly, joint, pleural, or pericardial fluid)  <em>Probable:</em> A case that meets the clinical case definition in the absence of another identified etiology for the illness and with isolation of group A <em>Streptococcus</em> from a non-sterile site  Note: Enter all confirmed and probable STSS cases as confirmed group A <em>Streptococcus</em>, invasive disease, code 11710. See also <em>Streptococcus</em>, invasive group A (GAS) disease (<em>Streptococcus pyogenes</em>), code 11710.</td>
<td>- Isolation of group A <em>Streptococcus</em> (<em>S. pyogenes</em>) (GAS)</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Streptococcus, invasive group A (GAS) disease</strong></td>
<td>Invasive group A streptococcal infections may manifest as any of several clinical syndromes, including pneumonia, bacteremia in association with cutaneous infection (e.g., cellulitis, erysipelas, or infection of a surgical or nonsurgical wound), deep soft-tissue infection (e.g., myositis or necrotizing fasciitis), meningitis, peritonitis, osteomyelitis, septic arthritis, postpartum sepsis (i.e., puerperal fever), neonatal sepsis, and non-focal bacteremia. <strong>Confirmed:</strong> A case that is laboratory confirmed. Note: A person with group A <em>Streptococcus</em> isolated 2 or more times within a 6-month timeframe (regardless of calendar year) should only be counted once as a case unless additional information is available to indicate a distinct infection, e.g., different serotype, etc.</td>
<td>• Isolation of group A <em>Streptococcus</em> (<em>Streptococcus pyogenes</em>) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid), <strong>OR</strong> • Isolation of group A <em>Streptococcus</em> (<em>Streptococcus pyogenes</em>) by culture from any site when Toxic Shock Syndrome or Necrotizing Fasciitis is present. See <em>Normally Sterile Site</em> and <em>Streptococcus Classification</em>.</td>
</tr>
<tr>
<td><strong>Streptococcus, invasive group B (GBS) disease</strong></td>
<td>Group B <em>Streptococcus</em> 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 <em>Streptococcus</em> is characterized by sepsis, respiratory distress, apnea, shock, pneumonia and meningitis. GBS is acquired in utero or during delivery and occurs more frequently in low birth weight infants. Group B <em>Streptococcus</em>, invasive disease can present in a number of different ways in adults. The most common problems in adults are: bloodstream infections, pneumonia, skin and soft-tissue infections, and bone and joint infections. Rarely, group B <em>Streptococcus</em> can cause meningitis in adults. <strong>Confirmed:</strong> A case that is laboratory confirmed. Notes: • Only count one GBS case for a mother/baby pair unless both mother and baby have GBS isolated/cultured from a sterile site (for this consideration, placenta and amniotic fluid are not sterile sites). In the event of a stillbirth or fetal death, if GBS is isolated from the placenta or amniotic fluid and there is no GBS culture available from a sterile site, count once as a maternal case. • A person with group B <em>Streptococcus</em> isolated 2 or more times within a 6-month timeframe (regardless of calendar year) should only be counted once as a case unless additional information is available indicating a distinct infection, e.g., different serotype, etc.</td>
<td>• Isolation of group B <em>Streptococcus</em> (<em>Streptococcus agalactiae</em>) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid), <strong>OR</strong> • Isolation of group B <em>Streptococcus</em> (<em>Streptococcus agalactiae</em>) by culture from placenta or amniotic fluid from an intact amnion. See <em>Normally Sterile Site</em> and <em>Streptococcus Classification</em>.</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><em>Streptococcus pneumoniae</em>, invasive disease (IPD) 11723*</td>
<td><em>Streptococcus pneumoniae</em> bacteria cause many clinical syndromes, depending on the site of infection (e.g., acute otitis media, pneumonia, bacteremia, or meningitis). Only invasive <em>Streptococcus pneumoniae</em> is reportable. <strong>Confirmed</strong>: A case that is laboratory confirmed <strong>Probable</strong>: A case with detection of <em>S. pneumoniae</em> from a normally sterile site using a culture independent diagnostic test (CIDT) (e.g., PCR, antigen based tests) without isolation of the bacteria Note: Positive lab results from a specimen collected more than 30 days after the collection date of a prior case should be counted as a new case. If specimen collection occurred within 30 days of the collection date of a prior case, it should not be counted as a new case.</td>
<td>- Isolation of <em>S. pneumoniae</em> from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid) See <a href="#">Normally Sterile Site</a> and <a href="#">Streptococcus Classification</a> Note: Serotyping of isolates can be performed at the DSHS laboratory. Serotyping is required by <a href="#">TAC</a> for invasive <em>streptococcus pneumoniae</em> cases on all isolates from children under 5 years old.</td>
</tr>
<tr>
<td><em>Taenia solium</em> and undifferentiated <em>Taenia</em> infection 80680</td>
<td>Taeniasis is an intestinal infection with the adult stage of the pork (<em>T. solium</em>) or beef (<em>T. saginata</em>) tapeworms. Clinical manifestations of infection with the adult worm, if present, are variable and can include nervousness, insomnia, anorexia, weight loss, abdominal pain, and digestive disturbances; many infections are asymptomatic. Taeniasis is usually a nonfatal infection, but the larval stage of <em>T. solium</em> can cause fatal cysticercosis. <strong>Confirmed</strong>: Laboratory identification of the presence of <em>T. solium</em> proglottids, eggs, or antigens in a clinical specimen <strong>Probable</strong>: Laboratory identification of the presence of undifferentiated <em>Taenia</em> spp. tapeworm proglottids or eggs in a clinical specimen See <a href="#">Cysticercosis</a></td>
<td>- Infection with an adult tapeworm is diagnosed by identification of proglottids (segments), eggs, or antigens of the worm in the feces or on anal swabs Note: Eggs of <em>T. solium</em> and <em>T. saginata</em> cannot be differentiated morphologically. Specific diagnosis is based on the morphology of the scolex (head) and/or gravid proglottids.</td>
</tr>
<tr>
<td>Tetanus 10210</td>
<td>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 <strong>Probable</strong>: A clinically compatible case, as reported by a health-care professional</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------</td>
<td>--------------------------------</td>
</tr>
</tbody>
</table>
| **Trichinellosis (Trichinosis)**<br>10270 | A disease caused by ingestion of *Trichinella* larvae. The disease has variable clinical manifestations. Common signs and symptoms include eosinophilia, fever, myalgia, and periorbital edema.  
  **Confirmed:** A clinically compatible case that is laboratory confirmed in the patient  
  **Probable:** A clinically compatible illness in a person who shared an epidemiologically implicated meal or ate an epidemiologically implicated meat product, OR a clinically compatible illness in a person who consumed a meat product in which the parasite was demonstrated  
  **Suspect:** Instances where there is no clinically compatible illness in a person who shared an implicated meal or ate an implicated meat product, has no known prior history of *Trichinella* infection, and has a positive serologic test for trichinellosis  
  Notes:  
   ▪ Epidemiologically implicated meals or meat products are defined as a meal/meat product that was consumed by a person who subsequently developed a clinically compatible illness that was laboratory confirmed.  
   ▪ Subsequent cases of trichinellosis experienced by one individual should only be counted if there is a clinically-compatible illness AND a compatible exposure. | ▪ Demonstration of *Trichinella* spp. larvae in tissue obtained by muscle biopsy, <br> OR  
  ▪ Positive serologic test for *Trichinella* spp. |
| **Trichuriasis**<br>80790 | Trichuriasis is a soil-transmitted helminth. People with light infections usually have no symptoms or only peripheral blood eosinophilia. People with heavy symptoms can experience frequent, painful passage of stool that contains a mixture of mucus, water, and blood. Rectal prolapse can also occur. Children with heavy infections can become severely anemic and growth-retarded.  
  **Confirmed:** A case that is laboratory confirmed | ▪ Microscopic identification of *Trichuria* eggs or worms in feces, <br> OR  
  ▪ Observation during sigmoidoscopy, proctoscopy, or colonoscopy of *Trichuria* worms characterized by a threadlike form with an attenuated, whip-like end, <br> OR  
  ▪ Identification of worms on prolapsed rectal mucosa |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Tularemia** 10230 | The signs and symptoms of tularemia vary depending on how the bacteria enter the body. Illness ranges from mild to life-threatening. All forms are accompanied by fever, which can be as high as 104 °F. Clinical diagnosis is supported by evidence or history of a tick or deerfly bite, exposure to tissues of a mammalian host of *Francisella tularensis*, or exposure to potentially contaminated water. Illness is characterized by several distinct forms, including the following:  
  - Ulceroglandular: cutaneous ulcer with regional lymphadenopathy  
  - Glandular: regional lymphadenopathy with no ulcer  
  - Oculoglandular: conjunctivitis with preauricular lymphadenopathy  
  - Oropharyngeal: stomatitis or pharyngitis or tonsillitis and cervical lymphadenopathy  
  - Pneumonic: primary pleuropulmonary disease  
  - Typhoidal: febrile illness without early localizing signs and symptoms  
  
  **Confirmed**: A clinically compatible case with confirmatory laboratory results  
  **Probable**: A clinically compatible case with laboratory results indicative of presumptive infection and the absence of a more likely clinical explanation:  
  - Elevated serum antibody titer(s)* to *F. tularensis* antigen (without documented fourfold or greater change) in a patient with no history of tularemia vaccination, **OR**  
  - Detection of *F. tularensis* in a clinical or autopsy specimen by fluorescent assay **OR**  
  - Detection of *F. tularensis* in a clinical or autopsy specimen by PCR  
  
  *ELISAs are qualitative tests and thus do not provide a titer. Samples that test positive by ELISA should be forwarded to DSHS for tularemia serologic testing to validate results. |  
  - Isolation of *F. tularensis* in a clinical or autopsy specimen,  
  **OR**  
  - Four-fold or greater rise in serum antibody titer* to *F. tularensis* antigen between acute and convalescent specimens.  
  Note: As required by **TAC**, all *F. tularensis* isolates must be submitted to the DSHS Laboratory. |
| **Typhoid fever** (caused by *Salmonella Typhi*) 10240 | For 2019, see *Salmonella Typhi* |  

Revision date: January 2019

63
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Typhus, flea-borne (endemic, murine) 10260 | Flea-borne typhus is a rickettsial disease whose course resembles that of louse-borne typhus, but is generally milder. The onset is variable, often sudden and marked by headache, chills, fatigue, fever, and general body aches. A macular rash may appear on the 5th or 6th day, initially on the upper trunk, followed by spread to the entire body, but usually not to the face, palms or soles. Absence of louse infestation, geographic and seasonal distribution, and sporadic occurrence of the disease help to differentiate it from louse-borne typhus.  
*Clinical evidence:* Any reported acute onset of fever and one or more of the following: headache, myalgia, anorexia, rash, nausea/vomiting, thrombocytopenia, or any hepatic transaminase elevation.  
*Confirmed:* Clinically compatible case that is laboratory confirmed  
*Probable:* Clinically compatible case with supportive laboratory results and the absence of a more likely clinical explanation:  
• IFA serologic titer of $\geq 1:128$  
Notes:  
• Because antibodies for rickettsial diseases can be cross-reactive, specimens should be tested against a panel* of *Rickettsia* antigens, including, at a minimum, *R. rickettsii* and *R. typhi*, to differentiate between SFG and non-SFG *Rickettsia* spp. In addition, according to CDC, rickettsial IgM tests lack specificity (resulting in false positives); thus, IgG titers are considered to be much more reliable.  
• A case should not be counted as new if the case has ever previously been reported for the same condition.  
*Specimens can be forwarded to the DSHS Serology Laboratory for rickettsial panel testing.*  
See *Rickettsia* Classification | • Serological evidence of an elevation (four-fold change) in IgG-specific antibody titer reactive with *R. typhi* or *R. felis* by IFA test in acute and convalescent specimens ideally taken at least 2 weeks apart,  
OR  
• Positive PCR assay to *R. typhi* or *R. felis*,  
OR  
• Demonstration of positive *R. typhi* or *R. felis* by IHC of skin lesion (biopsy) or organ tissue (autopsy),  
OR  
• Isolation of *R. typhi* or *R. felis* from clinical specimen |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Typhus fever (epidemic, louse-borne)** 10265 | A rickettsial disease caused by *Rickettsia prowazekii* and transmitted by the human body louse. The illness may have a variable onset which is often sudden and marked by headache, chills, prostration, fever, and general body aches. A macular rash may appear on the 5th or 6th day, initially on the upper trunk, followed by spread to the entire body, but usually not to the face, palms or soles. The rash is often difficult to observe on dark skin. Toxemia is usually pronounced, and the disease terminates by rapid defervescence after about 2 weeks of fever.  
**Confirmed:** Clinically compatible case that is laboratory confirmed  
**Probable:** Clinically compatible case with supportive laboratory results and the absence of a more likely clinical explanation:  
- IFA serologic titer of \( \geq 1:128 \)  
Note: The IFA test is most commonly used for laboratory confirmation, but it does not discriminate between louse-borne and flea-borne typhus unless the sera are differentially absorbed with the respective rickettsial antigen prior to testing.  
See *Rickettsia Classification* | - Four-fold or greater rise in IgG-specific antibody titer to *R. prowazekii* antigen by IFA test in acute and convalescent specimens ideally taken at least 2 weeks apart,  
- Positive PCR assay to *R. prowazekii*,  
- Demonstration of positive *R. prowazekii* IHC of skin lesion (biopsy) or organ tissue (autopsy) |
| **Vancomycin-intermediate *Staphylococcus aureus* (VISA)** 11663 | *Staphylococcus aureus* can produce a variety of syndromes with clinical manifestations including skin and soft tissue lesions, empyema, pyarthrosis, bloodstream infection, pneumonia, osteomyelitis, septic arthritis, endocarditis, sepsis, and meningitis.  
**Confirmed:** A vancomycin-intermediate *Staphylococcus aureus* from any body site that is laboratory confirmed. (MIC: 4-8 \( \mu \)g/ml)  
Note: The DSHS Laboratory uses the Etest for confirmation of resistance. Etest generates MIC values from a continuous scale and can give results in-between conventional two-fold dilutions. According to manufacturer’s protocol, a value which falls between standard two-fold dilutions is rounded up to the next upper two-fold value before categorization so that a MIC of 3\( \mu \)g/ml is reported as intermediate resistance.  
Additional information on VISA can be found at: [https://www.cdc.gov/hai/organisms/visa_vrsa/visa_vrsa.html](https://www.cdc.gov/hai/organisms/visa_vrsa/visa_vrsa.html) | - Isolation of *Staphylococcus aureus* from any body site,  
- Intermediate-level resistance (MIC: 4-8 \( \mu \)g/ml) of the *Staphylococcus aureus* isolate to vancomycin, detected and defined according to CLSI approved standards and recommendations.  
- Confirmed by the DSHS Laboratory  
Note: As required by TAC, all *Staphylococcus aureus* isolates with a vancomycin MIC greater than 2 \( \mu \)g/mL must be submitted to the DSHS Laboratory. Please contact a DSHS HAI Epidemiologist or the DSHS Laboratory for additional information on available laboratory support. [http://www.cdc.gov/HAI/settings/lab/visa_vrsa_lab_detection.html](http://www.cdc.gov/HAI/settings/lab/visa_vrsa_lab_detection.html) |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancomycin-resistant <em>Staphylococcus aureus</em> (VRSA) 11665</td>
<td><em>Staphylococcus aureus</em> 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. <strong>Confirmed:</strong> A vancomycin-resistant <em>Staphylococcus aureus</em> from any body site that is laboratory confirmed. (MIC: ≥ 16 µg/ml) Additional information on VRSA can be found at: <a href="https://www.cdc.gov/hai/organisms/visa_vrsa/visa_vrsa.html">https://www.cdc.gov/hai/organisms/visa_vrsa/visa_vrsa.html</a></td>
<td>- Isolation of <em>Staphylococcus aureus</em> from any body site, <strong>AND</strong> - High-level resistance of the <em>Staphylococcus aureus</em> isolate to vancomycin (MIC: ≥16 µg/ml), detected and defined according to CLSI approved standards and recommendations. <strong>AND</strong> - Confirmed by the DSHS Laboratory Note: As required by TAC, all <em>Staphylococcus aureus</em> isolates with a vancomycin MIC greater than 2 µg/mL must be submitted to the DSHS Laboratory. Please contact a DSHS HAI Epidemiologist or the DSHS Laboratory for additional information on available laboratory support. <a href="http://www.cdc.gov/HAI/settings/lab/visa_vrsa_lab_detection.html">http://www.cdc.gov/HAI/settings/lab/visa_vrsa_lab_detection.html</a></td>
</tr>
<tr>
<td>Varicella (chickenpox) 10030</td>
<td>An illness with acute onset of diffuse (generalized) maculopapulovesicular rash without other apparent cause. In vaccinated persons who develop varicella more than 42 days after vaccination (breakthrough disease), the disease is almost always mild with fewer than 50 skin lesions and shorter duration of illness. The rash can also be atypical in appearance (maculopapular with few or no vesicles). <strong>Confirmed:</strong> A case that meets the clinical case definition AND is either laboratory confirmed, OR epidemiologically linked to another probable or confirmed case <strong>Probable:</strong> A case that meets the clinical case definition without epidemiologic linkage or laboratory confirmation Note: Two or more patients that meet clinical case definition and are epidemiologically linked to one another meet the confirmed case definition.</td>
<td>- Isolation of varicella-zoster virus (VZV) from a clinical specimen, <strong>OR</strong> - Varicella antigen detected by direct fluorescent antibody (DFA), <strong>OR</strong> - Varicella-specific nucleic acid detected by polymerase chain reaction (PCR), <strong>OR</strong> - Significant rise in serum varicella immunoglobulin G (IgG) antibody level by any standard serologic assay</td>
</tr>
<tr>
<td>Condition/Code</td>
<td>Case Definition/Case Classification</td>
<td>Laboratory Confirmation Tests</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Vibrio parahaemolyticus 11541** | An intestinal disorder characterized by watery diarrhea and abdominal cramps in the majority of cases, and sometimes with nausea, vomiting, fever and headache. Occasionally, a dysentery-like illness is observed with bloody or mucoid stools, high fever and high WBC count. Typically, it is a disease of moderate severity lasting 1-7 days; systemic infection and death rarely occur.  
**Confirmed:** A case that meets the laboratory criteria for diagnosis  
**Probable:**  
- A case with *Vibrio parahaemolyticus* detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR**  
- A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis  
Note: A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species  
- Isolation of *Vibrio parahaemolyticus* from a clinical specimen  
Note: As required by TAC all Vibrio species isolates must be submitted to the DSHS Laboratory. |                                                                                                     |
| **Vibrio vulnificus 11542** | Infection with *Vibrio vulnificus* produces septicemia in persons with chronic liver disease, chronic alcoholism or hemochromatosis, or those who are immunosuppressed. The disease appears 12 hours to 3 days after eating raw or undercooked seafood, especially oysters. One third of patients are in shock when they present for care or develop hypotension within 12 hours after hospital admission. Three quarters of patients have distinctive bullous skin lesions; thrombocytopenia is common and there is often evidence of disseminated intravascular coagulation. *V. vulnificus* can also infect wounds sustained in coastal or estuarine waters; wounds range from mild, self-limited lesions to rapidly progressive cellulitis and myositis that can mimic clostridial myonecrosis in the rapidity of spread and destructiveness.  
**Confirmed:** A case that meets the laboratory criteria for diagnosis  
**Probable:**  
- A case with *Vibrio vulnificus* detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR**  
- A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis  
Note: A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species  
- Isolation of *Vibrio vulnificus* from a clinical specimen  
Note: As required by TAC all Vibrio species isolates must be submitted to the DSHS Laboratory. |                                                                                                     |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Vibriosis, other or unspecified 11540 | **An infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. Asymptomatic infections can occur, and the organism can cause extraintestinal infections**  
**Confirmed:** A case that meets the laboratory criteria for diagnosis  
**Probable:**  
- A case with a species of the family *Vibrionaceae* (other than *Vibrio parahaemolyticus*, *Vibrio vulnificus*, and toxigenic *Vibrio cholerae* O1 or O139) detected, in a clinical specimen, by use of culture independent laboratory methods (non-culture based), **OR**  
- A clinically compatible case that is epidemiologically linked to a case that meets the probable or confirmed laboratory criteria for diagnosis  
**Note:** A case should not be counted as a new case if laboratory results were reported within 30 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection, e.g., different species  
| **Isolation of a species of the family *Vibrionaceae* (other than *Vibrio parahaemolyticus*, *Vibrio vulnificus*, and toxigenic *Vibrio cholerae*) from a clinical specimen. Genera in the family *Vibrionaceae* currently include *Aliivibrio, Allomonas, Catenococcus, Enterovibrio, Grimontia, Listonella, Photobacterium, Salinivibrio*, and *Vibrio.*  
**Note:** As required by TAC all *Vibrio* species isolates must be submitted to the DSHS Laboratory.  

**Viral Hemorrhagic Fever (VHF) non-Ebola**  
11640 Crimean-Congo HF  
11648 Guanarito HF  
11638 Junin (Argentine) HF  
11632 Lassa fever  
11644 Lujo HF  
11637 Machupo (Bolivian) HF  
11631 Marburg fever  
11639 Sabia (Brazilian) HF  
| **An illness with acute onset of fever, **AND** one or more of the following clinical findings: severe headache, muscle pain, erythematous maculopapular rash on the trunk with flaking or shedding of the skin 3–4 days after rash onset, vomiting, diarrhea, abdominal pain, bleeding or bruising not related to injury, or thrombocytopenia. For arenaviruses (Guanarito, Junin, Lassa, Lujo, Machupo, Sabia) pharyngitis, retrosternal chest pain, or proteinuria may also occur.**  
**Confirmed:** A clinically compatible illness that is laboratory confirmed  
**Suspect:** A clinically compatible illness that meets one or more of the following exposures within 21-days before onset of symptoms:  
- Contact with blood or other body fluids of a patient with VHF, **OR**  
- Residence in—or travel to—an VHF endemic area, **OR**  
- Work in a laboratory that handles VHF specimens, **OR**  
- Work in a laboratory that handles primates, bats, or rodents from endemic areas, **OR**  
- Exposure to semen of an individual who had VHF within the last 12 months or breast-milk of an individual who had VHF within the last 6 months  

| **Detection of VHF* viral antigens in blood by enzyme-linked immunosorbent assay (ELISA) antigen detection,** **OR**  
- **Isolation of VHF virus in cell culture for blood or tissues,** **OR**  
- **Detection of VHF specific genetic sequence by Reverse Transcription-Polymerase Chain Reaction (RT-PCR) from blood or tissues,** **OR**  
- **Detection of VHF viral antigens in tissues by IHC**  

*Viral hemorrhagic fever (VHF) agents include:*  
- Crimean-Congo hemorrhagic fever viruses  
- Ebola virus (see Ebola case definition)  
- Lassa virus  
- Lujo virus  
- Marburg virus  
- New world arenaviruses (Guanarito, Machupo, Junin, Sabia viruses) |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Yellow fever**<br/>10660  | Yellow fever virus is a mosquito-borne flavivirus that is closely related to dengue, Japanese encephalitis, West Nile, and Zika viruses. Yellow fever is preventable by a safe and effective vaccine.  Most yellow fever virus infections are asymptomatic. Following an incubation period of 3–9 days, approximately one-third of infected people develop symptomatic illness characterized by fever and headache. Other clinical findings include chills, vomiting, myalgia, lumbosacral pain, and bradycardia relative to elevated body temperature. An estimated 5%–25% of patients progress to more severe disease, including jaundice, renal insufficiency, cardiovascular instability, or hemorrhage (e.g., epistaxis, hematemesis, melena, hematuria, petechiae, or ecchymoses). The case-fatality rate for severe yellow fever is 30%–60%.  
  **Clinical criteria:** An acute illness with at least one of the following: fever, jaundice, or elevated total bilirubin ≥3 mg/dl, and the absence of a more likely clinical explanation.  
  **Confirmed:** A clinically compatible case that is laboratory confirmed  
  **Probable:** A clinically compatible case with supportive serology:  
  ▪ Yellow fever virus-specific IgM antibodies in CSF or serum, AND negative IgM results for other arboviruses endemic to the region where exposure occurred, AND no history of yellow fever vaccination,  
  ▪ Epidemiologic linkage to a confirmed yellow fever case, or having visited or resided in an area with a risk of yellow fever in the 2 weeks before onset of illness.  | • Isolation of yellow fever virus from, or demonstration of yellow fever viral antigen or nucleic acid in, tissue, blood, CSF, or other body fluid, AND no history of yellow fever vaccination within 30 days before onset of illness unless there is molecular evidence of infection with wild-type yellow fever virus,  
  **OR**  
  • Four-fold or greater rise or fall in yellow fever virus-specific neutralizing antibody titers in paired sera, AND no history of yellow fever vaccination within 30 days before onset of illness,  
  **OR**  
  • Yellow fever virus-specific IgM antibodies in CSF or serum with confirmatory virus-specific neutralizing antibodies in the same or a later specimen, AND no history of yellow fever vaccination.                                                                                                                                                                                                                                                                                                 |
| **Yersiniosis**<br/>11565  | An illness characterized by diarrhea (sometimes bloody), fever, and abdominal pain; an appendicitis-like syndrome and systemic infections can occur  
  **Confirmed:** A case that meets the laboratory criteria for diagnosis  
  **Probable:** A clinically compatible case that is epidemiologically linked to a confirmed case, or a clinically compatible case identified through use of culture independent laboratory methods, such as a nucleic acid amplification test (NAT) such as PCR.  
  Note: A case should not be counted as a new case if laboratory results were reported within 365 days of a previously reported infection in the same individual, unless additional information is available indicating a separate infection.  | • Isolation of *Yersinia* (except *Y. pestis*)* in a clinical specimen  
  As required by TAC all *Yersinia pestis* isolates must be submitted to the DSHS Laboratory.  
  For *Yersinia pestis* isolates, see [Plague](#)                                                                                                                                                                                                                                                                                                                                 |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Zika disease, congenital 50224 | **Clinical evidence:** A neonate with one or more of the following not explained by another etiology:  
  - congenital microcephaly  
  - congenital intracranial calcification  
  - other structural brain or eye abnormalities  
  - other congenital central nervous system-related abnormalities including defects such as clubfoot or multiple joint contractures  
  **Confirmed:** A clinically compatible neonate with laboratory confirmation.  
  **Probable:** A clinically compatible neonate whose mother has an epidemiologic link* OR meets laboratory criteria for recent ZIKV or flavivirus infection: AND the neonate has laboratory evidence of recent ZIKV or flavivirus infection by:  
  - Positive ZIKV IgM antibody test of serum or CSF within 2 days of birth**; AND  
    - positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; OR  
    - negative dengue virus IgM antibody test and no neutralizing antibody test performed  
  *Epidemiologic link defined as one or more of the following:  
  - Resides in or recent travel to an area with known ZIKV transmission, OR  
  - Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; OR  
  - Receipt of blood or blood products within 30 days of symptom onset; OR  
  - Organ or tissue transplant recipient within 30 days of symptom onset; OR  
  - Association in time or place with a confirmed or probable case; OR  
  - Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission  
  **The requirement that samples be collected within 2 days only applies to areas with ongoing local Zika transmission. |
| | - Detection of ZIKV by culture, viral antigen or viral RNA in fetal tissue, umbilical cord blood, or amniotic fluid with a validated diagnostic test  
  - Detection of ZIKV by culture, viral antigen or viral RNA in neonatal serum, CSF, or urine collected within 2 days of birth**  
  - Positive ZIKV IgM antibody test of umbilical cord blood, neonatal serum or CSF collected within 2 days of birth**  
  with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Zika disease, non-congenital** 50223 | A mosquito-borne viral illness transmitted by *Aedes* mosquitoes, including *Ae. aegypti* and *Ae. albopictus*. Infection is asymptomatic in up to 80% of cases and clinical illness, when it occurs, is typically mild and lasts for several days to a week. Transmission of Zika virus (ZIKV) *in utero* has been associated with severe birth outcomes, including microcephaly and fetal loss. **Clinical evidence:** An individual with one or more of the following not explained by another etiology:  
  ▪ Clinically compatible illness that includes:  
    ▪ acute onset of fever (measured or reported), or  
    ▪ rash, or  
    ▪ arthralgia, or  
    ▪ conjunctivitis  
  ▪ Complication of pregnancy  
    ▪ fetal loss, or  
    ▪ fetus or neonate with congenital microcephaly, congenital intracranial calcification, other structural brain or eye abnormalities, or other congenital central nervous system-related abnormalities including defects such as clubfoot or multiple joint contractures (note: if detected prior to infant’s birth, the relevant birth defects must be documented in at least two separate ultrasounds and/or verified at birth)  
  ▪ Guillain-Barré syndrome or other neurologic manifestations  
  **Confirmed:** A clinically compatible individual with laboratory confirmation.  
  **Probable:** A clinically compatible individual with an epidemiologic link* AND laboratory evidence of recent ZIKV or flavivirus infection by:  
  ▪ Positive ZIKV IgM antibody test of serum or CSF with:  
    ▪ positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; **OR**  
    ▪ negative dengue virus IgM antibody test and no neutralizing antibody test performed  
  *Epidemiologic link defined as one or more of the following:  
  ▪ Resides in or recent travel to an area with known ZIKV transmission, **OR**  
  ▪ Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; **OR**  
  ▪ Receipt of blood or blood products within 30 days of symptom onset; **OR**  
  ▪ Organ or tissue transplant recipient within 30 days of symptom onset; **OR**  
  ▪ Association in time or place with a confirmed or probable case; **OR**  
  ▪ Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission  
  ▪ Detection of ZIKV by culture, viral antigen or viral RNA in serum, CSF, tissue, or other specimen (i.e. amniotic fluid, urine, semen, saliva) with a validated diagnostic test  
  **OR**  
  ▪ Positive ZIKV IgM antibody test in serum or CSF with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| Zika infection, congenital | **Confirmed:** A neonate who does not meet clinical criteria for congenital Zika disease, BUT who meets confirmatory laboratory criteria.  
Probable:** A neonate who does not meet clinical criteria for congenital Zika disease whose mother has an epidemiologic link* OR meets laboratory criteria for recent ZIKV or flavivirus infection; AND the neonate has laboratory evidence of recent ZIKV or flavivirus infection by:  
• Positive ZIKV IgM antibody test of serum or CSF within 2 days of birth**; AND  
  • positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; OR  
  • negative dengue virus IgM antibody test and no neutralizing antibody test performed  
*Epidemiologic link defined as one or more of the following:  
• Resides in or recent travel to an area with known ZIKV transmission, OR  
• Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; OR  
• Receipt of blood or blood products within 30 days of symptom onset; OR  
• Organ or tissue transplant recipient within 30 days of symptom onset; OR  
• Association in time or place with a confirmed or probable case; OR  
• Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission  
**The requirement that samples be collected within 2 days only applies to areas with ongoing local Zika transmission. | • Detection of ZIKV by culture, viral antigen or viral RNA in fetal tissue, umbilical cord blood, or amniotic fluid with a validated diagnostic test  
OR  
• Detection of ZIKV by culture, viral antigen or viral RNA in neonatal serum, CSF, or urine collected within 2 days of birth**  
OR  
• Positive ZIKV IgM antibody test in umbilical cord blood, neonatal serum or CSF collected within 2 days of birth** with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred |
<table>
<thead>
<tr>
<th>Condition/Code</th>
<th>Case Definition/Case Classification</th>
<th>Laboratory Confirmation Tests</th>
</tr>
</thead>
</table>
| **Zika infection, non-congenital** 50221 | *Confirmed:* An individual who does not meet clinical criteria for non-congenital Zika disease, BUT who meets confirmatory laboratory criteria.  

*Probable:* An individual who does not meet clinical criteria for non-congenital Zika disease, BUT who has an epidemiologic link* AND laboratory evidence of recent ZIKV or flavivirus infection by:  
- Positive ZIKV IgM antibody test of serum or CSF with:  
  - positive neutralizing antibody titers against ZIKV and dengue or other flaviviruses endemic to the region where exposure occurred; **OR**  
  - negative dengue virus IgM antibody test and no neutralizing antibody test performed  

*Epidemiologic link defined as one or more of the following:*  
- Resides in or recent travel to an area with known ZIKV transmission; **OR**  
- Sexual contact with a confirmed or probable case of ZIKV infection or person with recent travel to an area with known ZIKV transmission; **OR**  
- Receipt of blood or blood products within 120 days of diagnosis; **OR**  
- Organ or tissue transplant recipient within 120 days of diagnosis; **OR**  
- Association in time or place with a confirmed or probable case; **OR**  
- Likely vector exposure in an area with suitable seasonal and ecological conditions for potential local vectorborne transmission | * Detection of ZIKV by culture, viral antigen or viral RNA in serum, CSF, tissue, or other specimen (e.g., amniotic fluid, urine, semen, saliva) with a validated diagnostic test, **OR**  
- Positive ZIKV IgM antibody test in serum or CSF with positive ZIKV neutralizing antibody titers and negative neutralizing antibody titers against dengue or other flaviviruses endemic to the region where exposure occurred. |